Why Do Privatized Firms Pay Higher Dividends?

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Abstract

We examine state income and reputation incentives to account for the high dividends of privatized firms. Consistent with these agency-cost based incentives, we show that the extent of state ownership positively impacts corporate dividends. We distinguish between the empirical importance of these incentives using variation in the rule of law to protect minority shareholders, the fiscal deficit and the political orientation of the state. Our findings show that an incentive to enhance the state's reputation with minority shareholders can account for the high dividends of privatized firms.

Keywords: Privatization, State ownership, Payout policy, Dividends, Minority shareholders, State income, State reputation
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1. Introduction

We investigate the dividend premium of privatized firms.[1] In the privatization literature, dividends have been shown to increase at privatization (Megginson and Netter, 2001) and remain high thereafter (Gugler, 2003; Von Eije and Megginson, 2008), but there is no explanation provided as to why this is so. On the other hand, despite a body of research which shows that corporate insiders (La Porta *et al.*, 2000; Chay and Suh, 2009), and, in particular, controlling and influential shareholders (Faccio *et al.*, 2001; DeAngelo *et al.*, 2009; Isakov and Weisskopf, 2015; Attig *et al.*, 2016), can have an important impact on the formulation of dividend policy, there is scant evidence about the influence of state ownership on corporate cash dividends. The task to identify and test a link between the extent of state ownership in a firm and its dividends is, hence, not only a significant open question for privatization scholars but also in respect to scholarship on the impact of blockholders on dividends. Our study materially extends these literatures, as we are the first to identify and test ownership related explanations to account for the high dividends of privatized firms.

Accounting for the distinct incentives of the state, as a large shareholder in a privatized firm, can help us better understand the patterns in payout policies of these firms.[2] Pronounced agency problems can be introduced in the privatization process due to the conflicting objectives of the state, with non-commercial and political concerns, and minority shareholders who, presumably, wish to maximize firm market value (Eckel and Vermaelen, 1986; Perotti, 1995; Borisova *et al.*, 2012; Chen *et al.*, 2018). The expropriation of minority shareholders by the state could, in principle, divert free cash flows, i.e. via 'tunnelling', and, ultimately, reduce cash dividends.[3] On the other hand, in practice, where high dividends are the norm in privatized firms, the state may seek to

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[1]Privatization is the process of government divestiture of state-owned enterprises. Privatized firms were once held exclusively by the state but have since been listed and are at least partially in public hands. Non-privatized firms are publicly listed companies that have never been controlled by the government.

[2]In a recent survey, DeAngelo *et al.* (2009) highlight that the preferences of a controlling shareholder can have a first-order impact on payout policy.

[3]See Faccio *et al.* (2001); Johnson *et al.* (2000a,b); Claessens *et al.* (2000) for related evidence in regard to non-privatized firms.

allay the minority shareholders' expropriation concerns by distributing the cash flows in the form of dividends.[4] As Perotti (1995) indicates the state may want to establish a reputation for fair treatment of minority shareholders, with a view to raising capital in the future. Indeed, unlike the stability over time of family ownership in family founded firms (Isakov and Weisskopf, 2015), the extent of state ownership in privatized firms typically decreases with the length of time since privatization.[5] Alternatively, paying high dividends may provide the state with an attractive source of fiscal income without compromising its stake in the firm. Both the reputation and income explanations predict a positive relation between the extent of state ownership in a privatized firm and the amount of dividends it distributes.

Our study is important not solely due to the capacity of state preferences to account for the high dividend of privatized firms, but also due to the sheer extent of government holdings of corporate capital globally. Megginson (2010) shows, for instance, that privatized firms are among the largest four firms in terms of market capitalization in every large country except the United States and Canada. Indeed, there is an extensive holding of sovereigns in global equity markets, which has primarily resulted from rescue efforts due to the financial crisis (Borisova *et al.*, 2015; Megginson, 2017).[6] There is, moreover, a widespread prevalence of state ownership of corporations globally (Megginson, 2010; Borisova *et al.*, 2012; OECD, 2018), which shows the potential for far reaching and economically important implications of state ownership. The presence of state-owned firms in the global economy has, in addition, grown strongly in recent years. Today they account for over a fifth of the world's largest enterprises (OECD, 2018), which, heightens the inherent possibility of privatizations in the future. Indeed, that OECD (2018) report indicates that global privatization trends are on the rise in recent years.[7]

To provide insight on the potential relation between the extent of state ownership

[4]Easterbrook (1984) and Jensen (1986) propose paying dividends to mitigate the agency problems between corporate insiders and outside shareholders. The underlying idea, in that work, is that if profits are retained in the firm, they may be diverted for perquisite consumption, empire building and other value destroying activities and therefore outside shareholders would prefer dividends.

[5]In our data set, the state holds a majority stake in newly privatized firms in 61% of instances. Four years after privatization this rate falls to 45% of instances, with the proportion of state majority stakeholders in privatized firms declining thereafter.

[6]Borisova *et al.* (2015) reports that nearly 20 % of global stock market capitalization, in 2011, was held by sovereign states.

[7]The annual dollar value of privatizations has risen from around 110 billion US$ in 2008 to 266 billion US$ in 2016.

and corporate cash dividends, we compile a unique sample of 191 privatized firms, over 2,119 firm years, from 26 countries. Unlike prior work which examines post-privatization firms' dividends (Gugler, 2003; Von Eije and Megginson, 2008), for our sample of firms, we identify, each year, the extent of state ownership (i.e. majority/ minority/ zero holdings). Our hand-collected sample enables inference on the relation between the extent of state ownership and privatized firms' dividends, while accounting for a wide set of variables that are well-known to pertain to dividends.

We provide a brief outline of our findings. Consistent with the view that state-owned firms either initiate dividends or significantly increase their dividend payouts after listing (Megginson *et al.*, 1994; Boubakri and Cosset, 1998; D'Souza and Megginson, 1999), we show marked increases in dividends at privatization. We also show, in line with Gugler (2003) and Von Eije and Megginson (2008), that privatized firms continue to pay higher dividends than public firms during post-privatization years. We then turn to explain this post-privatization dividend premium. A revenue type privatization (i.e. where state retains more than 50% of the ownership) is shown to be associated with a 14.5 percentage point dividend-to-sales premium over that in a control type privatization (i.e. where the state retains less than 50% of the ownership). This finding, in the cross-section of privatized firms' dividends, lends support to both our reputation and income explanations.

We then discern between the empirical importance of the income and reputation explanations. First, we look at the variation of minority shareholder protection internationally (La Porta *et al.*, 2000, 1998; Djankov *et al.*, 2008; Kaufmann *et al.*, 2016). To the extent that the reputation hypothesis is important, the dividends of revenue type privatizations should be more negatively associated with minority shareholder protection than other privatized firms' dividends. This follows as higher potential agency costs can be associated with revenue type privatizations. Second, the political ideology of the state is examined (Biais and Perotti, 2002; Ben-Nasr *et al.*, 2012). A left-wing political orientation of the state can imply an aversion towards the concession of control of a privatized firm to the market. This, in turn, impedes the state from generating income by stock concession transactions in the capital market. We, thirdly, look at the extent to which the state's income stream is likely to be inadequate. To the extent that the income hypothesis is insightful, the more left-wing oriented the state and the more its income stream is inadequate, the greater the extent of the revenue type privatized firm dividends compared to other privatized firms' dividends. Our findings, hence, suggest the relative importance of the state's reputation with minority shareholders to account

for the high dividends of privatized firms.

One may be concerned about the endogeneity of the extent of state ownership in a privatized firm. The state's decision to privatize a firm in the first instance, or an additional fraction of a firm subsequently, is not made at random. In a survey paper, Megginson and Netter (2001) suggest that the state may prefer to 'make privatization look good by privatizing the healthiest firms first'. In line with this endogeneity concern, full privatizations tend to outperform partial privatizations (Boardman and Vining, 1989), control type privatizations tend to outperform revenue type privatizations (Boubakri *et al.*, 2005) and partial privatization tends to outperform state-owned enterprises (Gupta, 2005). Improvements in company performance might, ultimately, account for the reported high dividends at privatization, potentially making the high dividend independent of the privatization event. In this vein, our finding of high dividends of revenue type privatizations are despite and cannot be due to the selection bias of states to further privatize firms with better prospects. However, in line with Borisova and Megginson (2011), we conduct instrumental variable two stage least squares regressions, using the fiscal deficit (i.e. government debt as a percentage of GDP) as an instrument for the extent of state ownership. In addition, we follow Chen *et al.* (2018) and conduct a Heckman two-stage analysis to account for sample selection concerns. Our main result, in regard to the influence of the extent of state ownership on dividends, becomes even stronger once we mitigate for the potential endogeneity bias.

We implement a series of additional robustness tests and show that our main findings remain qualitatively unchanged. Our robustness checks are based on a variety of dimensions: (i) we use an array of payout measures (dividend-to-sales ratio, the natural logarithm of dividends, dividend-to-earnings ratio, and dividends-to-total assets ratio) to proxy for dividends paid by the sample companies; (ii) we test if the results can be accounted for by the phase of the financial life-cycle of the privatized firm (Grullon *et al.*, 2002; DeAngelo *et al.*, 2006) and (iii) we test if the results are robust to the cross-country and temporal variation in the dividend tax penalty (Poterba and Summers, 1984; Jacob and Jacob, 2013). Our main findings are substantively unchanged across all these tests.

Two closely related papers to our work are those of Michaely and Roberts (2012) and Isakov and Weisskopf (2015) in regard to, respectively, the influence of private and public ownership structures and family blockholders on dividends. Michaely and Roberts (2012) show, *inter alia*, using UK based firms, that publicly listed firms pay higher dividends than matched private firms. The findings are accounted for as due

to variation in frictions, inter-shareholder agency conflict and information asymmetry, across ownership structures: wholly owned firms, private dispersed firms and public firms. Our contribution, in contrast, relates to an international data set of wholly and partially (i.e. privatized) state-owned firms, and this type of firm is excluded by Michaely and Roberts (2012). Our findings coincide with theirs in that we show an increase of dividends post listing. We, in addition, show this dividend premium is especially evident for revenue type privatizations. In the post-listing sample we show that similar to family blockholder effects on dividends (Isakov and Weisskopf, 2015), revenue type privatizations cause high dividends. Unlike in Isakov and Weisskopf (2015), however, a reputation as opposed to an income incentive is shown to explain the high dividends of privatized firms. This is possibly due to the state's objective to concede ownership in privatized firms relative to a family founded firm's preference to retain ownership for future generations.

The remainder of the paper is organized as follows. The next section presents a discussion of the related literature and the development of our hypotheses tests. Section 3 presents our data sources and characterizes our sample. Section 4 presents our results. Section 5 considers alternative explanations related to the financial life-cycle. Section 6 concludes.

2. Literature Review and Hypotheses Development

To account for the cash amounts distributed by firms to their shareholders most studies, since the seminal dividend studies of Lintner (1956) and Miller and Modigliani (1961), have presumed a clear separation between management and a large number of small shareholders. Absent influence on the board of directors or management, such small shareholders cannot individually impact dividend decisions. More recent literature, however, has shown that influential blockholders and controlling shareholders (e.g. founding families and financial institutions) can have an important influence on corporate dividends.

We turn to investigate the dividend premium of privatized firms. On the one hand, the question of why privatized firms pay high dividends has gone unanswered. On the other hand, the influence of state ownership on post privatization dividends has received limited attention in scholarship. Extending prior work, in public firms, on the implications for dividends of corporate insiders and, in particular, controlling and influential shareholders, our study is the first to examine whether the extent of state

ownership can explain the dividend premium paid by privatized firms. We propose state reputation (i.e. allay expropriation concerns of minority shareholders) and state income (i.e. extraction of cash to supplement state income) related explanations for the high dividends of privatized firms, and we discern between the relative empirical importance of these explanations.

2.1. The reputation and income hypotheses

We propose that privatized firms can pay high dividends with a view to building a reputation for the state, especially when it is a controlling shareholder, in regard to its protection of the interests of minority shareholders.[8] The concern of minority shareholders is that the state may have distinct, possibly politically motivated, preferences; which do not align with firm value maximization (Eckel and Vermaelen, 1986; Perotti, 1995; Borisova *et al.*, 2012; Chen *et al.*, 2018). The state can, as per the 'substitution model' of La Porta *et al.* (2000), wish to allay concerns of minority shareholder expropriation and, thus, minimize the cost of equity. This can facilitate the state if/when it decides to further concede its ownership. Also, in line with the reputation building argument made by Perotti (1995), we argue that by paying high dividends, the state can reduce the uncertainty regarding its reallocation of firm value or possible misuse of firm resources, and convey its commitment to its privatization policy.[9] A sufficiency of dividends can substitute for impaired governance mechanisms due to the presence of the state in the ownership structure of the privatized firm. This can, in turn, re-assure the minority shareholders that their interests are at least significantly protected, and reduce their incentive to monitor privatized firm management[10] and facilitate the issuance of equity by the privatized firm in future. Higher ownership by the state suggests higher

[8]It is well known that a divergence of interests can prevail between controlling and minority shareholders in public firms (Berle and Means, 1932; Fan and Wong, 2002). It has been shown that this can ultimately lead to 'tunnelling' i.e. the expropriation of minority shareholders (Johnson *et al.*, 2000a,b; Faccio *et al.*, 2001), and reduced firm value (Claessens *et al.*, 2000).

[9]Perotti (1995) presents a theoretical model to explain why, despite improved redistribution and incentives associated with private control, the transfer of ownership in privatizations is gradual rather than rapid. Gradual concession of ownership and non-interference on part of state, imparts a reputation related signal to investors, that the government is willing to bear the risk along with the investors. The rationale is that, otherwise, investors would be concerned about expropriation by the government, especially in a revenue type privatization. This reputation signal can align with the state's ultimate goal of selling the remaining shareholdings to the investors.

[10]High dividends can offset an incentive of minority shareholders to monitor management (e.g. 'sleeping dogs' approach to dividends in Warther (1993); Zwiebel (1996); Myers (2000); DeAngelo and DeAngelo (2000)).

influence on firm's policies and, therefore, higher expropriation concerns by minority shareholders. It also indicates that the state has a greater exposure to the firm in regard to future privatization. As a result, the incentive for the state to build a reputation, in this way, is greater the larger the shareholding of the state in the privatized firm.

We also propose that the state can seek to pay high dividends for reasons related to its income. As with family owned firms, which can have intergenerational constraints on the concession of ownership (DeAngelo *et al.*, 2009; Isakov and Weisskopf, 2015; Attig *et al.*, 2016), the state can have a politically informed preference not to concede its control (Biais and Perotti, 2002; Ben-Nasr *et al.*, 2012). This governmental preference, not to further concede ownership, can manifest into high dividends to facilitate income for the state, while maintaining its influence on the privatized firm.[11] The greater the extent of state ownership, the greater the claim of the state on distributed dividends, and the more attractive the dividend channel is to the state to raise income.

Taking the reputation and income hypotheses together, we hypothesize that the higher the level of state ownership in privatized firms, the higher the dividends paid.

Hypothesis 1 (H1): *Privatized firms will pay higher dividends the greater the extent of government ownership.*

As both the reputation and income hypotheses predict high privatized firm dividends, we conduct two additional sets of tests to discern between the relative importances of these hypotheses to explain the high dividends of privatized firms.

2.2. Discerning between the reputation and income hypotheses

Our first set of tests focuses on the reputation hypothesis. As indicated above, this explanation can be motivated by the 'substitution model' of La Porta *et al.* (2000). That model indicates that firm insiders, especially in weak minority shareholder protection countries, can prefer to pay high dividends when they anticipate a future issuance of equity. The state, we argue, especially when it holds a majority of the voting shares, may therefore induce management to pay out sufficient dividends to build a reputation of fair

[11] In a setting of perfect capital markets, the Fisher separation theorem asserts that the primary objective of a corporation will be the maximization of its present value, irrespective of the income preferences of its shareholders. Small shareholders can conduct transactions in the capital market to generate income. Large shareholders, e.g. the state or family founding firms, however, may have an aversion to conceding control. Dividends, in this latter setting, may be used to extract income from the firm independent of firm value maximization.

treatment with its minority shareholders.[12] To evaluate the reputation hypothesis, we, hence, test if revenue type privatized firm dividends are more negatively associated with the rule of law to protect minority shareholders (La Porta *et al.*, 2000; Djankov *et al.*, 2008; Kaufmann *et al.*, 2016), than other privatized firm dividends. We hypothesize and test whether dividends of revenue type privatizations are higher in countries with low minority shareholder protection.

Hypothesis 2 (H2): *Revenue type privatized firms with low protection to minority shareholders will pay higher dividends.*

Our second set of tests focuses on the income hypothesis. To discern between the importance of the reputation and income hypotheses, we account for the political ideological orientation of the state. Following Biais and Perotti (2002) and Ben-Nasr *et al.* (2012), we distinguish between left-wing and right-wing governments. Left-wing governments are both less likely to implement market-oriented policies (e.g. privatization) and, should they do so, less committed to these policies. Accordingly, a preference to retain control of a privatized firm is likely to be more pronounced in left-wing as opposed to right-wing governments. In a left-wing oriented political regime, we, hence, argue that, dividends, would be more likely to be high, to provide an additional income to the state. This would be especially our expectation when the state has a majority stake in the firm as in this instance the state, likely, has sufficient influence to induce management to pay out dividends. Also, in this instance, the state will be the principal beneficiary of dividends disbursed. We, hence, hypothesize that, in a revenue type privatization setting, the left-wing political orientation of the state is associated with high dividends.

Hypothesis 3 (H3): *Revenue type privatized firms when the state has a left-wing political orientation will pay higher dividends.*

As a related sub-hypothesis, we test if left-wing oriented governments which have limited cash (i.e. a high fiscal deficit) pay even higher dividends. If so, this would also lend important support to the state income hypothesis.

[12] An OECD (2018) report, on privatization and state ownership, suggests that in about half the countries observed, dividends for state-owned enterprises (SOEs) are explicitly, on an annual basis, negotiated between SOE boards and the state shareholder.

3. Data and Variable Description

We examine a sample of 191 privatized firms with up to 2,119 firm years.[13] We have over 4,000 non-privatized firms available for comparison.[14] The privatized firms in our sample are listed on exchanges (and headquartered) across 26 countries. The data are primarily obtained from SDC Platinum and Worldscope, but also from Datastream and the World Bank's Privatization Transactions Database. In addition, we hand collected state ownership data over the years following the privatization event. The process of hand collection involved multiple rounds of searches on Lexis-Nexis to determine if and when the state ownership changed for our sample firm after the privatization. We also obtained the data on state ownership from the Privatization Barometer database, company annual reports, MarketScreener and company websites.[15] Our sample commences in 1990 and extends through 2013.[16]

For a comprehensive analysis, we examine multiple measures of dividends. DIV is the total common cash dividend paid in a fiscal year. We follow Brockman and Unlu (2009) and use the dividend-to-sales (DIV/SALES) ratio as our dependent variable of primary interest. Earnings management varies internationally and the scope for such manipulation is negatively correlated with the strength of investor rights (Leuz *et al.*, 2003). Investor rights are critical to several of our main hypotheses tests. Hence, to maximize our sample size and to reduce measurement error, our primary focus is on the dividend-to-sales (DIV/SALES) ratio. However, we also construct and present findings for the natural log of dividend payments, dividend-to-earnings before interest and taxes (DIV/EBIT) and dividends-to-total assets (DIV/TOTALASSETS) following (Von Eije and Megginson, 2008), Chay and Suh (2009) and DeAngelo *et al.* (2006), respectively.[17]

We include several variables to account for the ownership structure of our sample of firms. We follow D'Souza *et al.* (2005) to construct FOREIGN, a dummy variable that indicates whether the primary investor in a new privatization is a foreign firm.

[13]We define privatization, consistent with Worldscope, as a government owned or government controlled entity that sells shares or assets for the first time to a non-government entity.

[14]Consistent with recent literature on corporate payout determination (Von Eije and Megginson, 2008; Denis and Osobov, 2008; Chay and Suh, 2009; Brockman and Unlu, 2009), we exclude American Depository Receipts (ADRs), and firms with negative dividends and sales.

[15]Key words used in the searches include: ownership, state, privatization, acquisition, shareholders, history and golden share.

[16]We begin with 1990 because coverage of firm-specific data outside the United States prior to 1990 in Datastream and other international databases is limited (Denis and Osobov, 2008).

[17]Please refer to Appendix A for detailed definition of variables and Appendix B for a description of our data set of privatizations across countries, legal systems, type of privatization and industry sectors.

Similarly, INSTITUTIONAL is a dummy variable that indicates whether the primary investor is an institutional investor (Gupta, 2005). Following Chay and Suh (2009), we include the fraction of common stock owned by insiders (CLOSE) as a proxy variable for agency conflict. TOTALGOVHOLDING is the proportion of a firm's stock owned by the state during the post privatization period.[18] Megginson *et al.* (1994) formulated a dummy variable, 'revenue', that indicates whether the state retains more than 50 percent of ownership at the time of privatization. Using the hand collected data on state ownership, we create a new variable, REVENUE_NEW, which is a dummy variable that is equal to one if the state, in any given year, owns more than 50 percent of the shares. Note that while 'revenue' is based on the ownership at the time of privatization, REVENUE_NEW is constructed by tracking the state ownership through the years. As a result, while 'revenue' is a static variable, REVENUE_NEW is dynamic in nature.

To control for the income risk of the firm, we follow Von Eije and Megginson (2008) and include the standard deviation of the previous three years' net income scaled by year-specific total assets (INCOMERISK). To proxy for growth opportunities, we construct annualized real change in total assets (ASSETGROWTH) similar to Fama and French (2001) and an annualized real change in sales (SALESGROWTH) following Brockman and Unlu (2009) and Boubakri *et al.* (2005).

As in D'Souza and Megginson (1999) and Von Eije and Megginson (2008), we control for firm-level leverage (LEVERAGE), measured as debt to total assets, which can ameliorate prospective agency costs of free cash flows due to associated monitoring by creditors (Jensen, 1986). Following Megginson *et al.* (1994) and Boubakri and Cosset (1998), we incorporate sales to employees (SALES/EMPLOYEES) to reflect firm-level efficiency. To account for investor rights, we follow La Porta *et al.* (1998) and include a dummy variable (COMMONLAW) for common law countries in our sample. RULELAW reflects the extent to which agents have confidence in and abide by the rules of society (La Porta *et al.*, 1998; Kaufmann *et al.*, 2016). LEFTWING is a country-specific annual dummy variable that indicates whether the country's Central Government is left-wing oriented (Ben-Nasr *et al.*, 2012). We follow Poterba and Summers (1984) to construct the TAXPENALTY variable. Heterogeneity in investors' demand for dividends can also reflect individual behavioral biases. We account for this clientele (DeAngelo and DeAngelo, 2008) by including a stock price based catering

[18]These data are sourced at the KPMG Privatization Barometer. They are available for European privatizations only.

(CATERING) measure of investor demand for dividends (Baker and Wurgler, 2004). We also include a time trend variable (YEAR) to account for a deterministic time trend in payout amounts (Von Eije and Megginson, 2008). GDPGROWTH (D'Souza *et al.*, 2005; Boubakri *et al.*, 2005) is included to capture the annual per capita growth in a country's GDP. Finally, following Borisova and Megginson (2011), as an instrumental variable we use the government debt as a percentage of GDP (NATIONALDEFICIT).

Country-specific consumer price indices are used to deflate the nominal firm-specific accounting and financial data into real 1990 US$. Local currency values are converted into US$ using the year-end exchange rate. To adjust for extreme outliers, we winsorize the variables at the top and lower 1% of their respective distributions (Pinkowitz *et al.*, 2006; Harford *et al.*, 2008; Aggarwal *et al.*, 2011).

4. Results

We present our findings in three parts. First, we confirm the existence of a dividend premium for our sample firms immediately following the privatization. Using both a univariate and multivariate analysis, we confirm that our sample exhibits an increase in dividends for privatized firms. Second, using a post-privatization and cross-sectional comparison of privatized firms, we present findings that provide evidence of a positive impact of the extent of state ownership on dividends. This finding is consistent with both the reputation and income hypotheses. In the last part, we empirically discern between the relative importances of the reputation and income hypotheses.

4.1. Dividends by privatized firms around privatization

In Table 1, we report univariate findings for dividends. For a comprehensive analysis, we use four different measures of dividends: unscaled total real (1990 prices) amount of dividends (DIV), dividends-to-sales ratio (DIV/SALES), dividends-to-earnings before interest and taxes ratio (DIV/EBIT), and dividends-to-total assets ratio (DIV/TOTALASSETS).[19]

In Panel A we focus on privatized firms and report the means and medians for the measures of dividends during three years before and three years after privatization.[20] The data show that majority of firms either increase (or initiate) dividends

[19]The measures of dividends are derived from existing studies such as Von Eije and Megginson (2008); Brockman and Unlu (2009); Chay and Suh (2009) and DeAngelo *et al.* (2006).

[20]We follow previous studies (Boubakri and Cosset, 1998; D'Souza and Megginson, 1999; Boubakri *et al.*, 2005; D'Souza *et al.*, 2005) such that companies are required to have at least two years of consecutive data during both pre- and post-privatization periods. This restriction reduces our sample

after privatization. For instance, the comparison of DIV pre- and post-privatization suggests that 79.2% of the firms exhibit an increase in dividends after privatization. The numbers for the other measures of dividends are around 70%, with DIV/SALES being minimum with 68.3%. While mean (median) dividends paid during the years preceding the privatization event is \$103.84 million (\$17.79 million), it more than doubles to \$209.47 million (\$37.27 million) during the three years immediately following privatization. Consistent with previous studies (Megginson *et al.*, 1994; Boubakri and Cosset, 1998; D'Souza and Megginson, 1999), we observe a similar increase in the three scaled measures of dividends after initial privatization. The p-values indicate that all the differences between pre- and post-privatization dividends are statistically significant at 1% level, except the difference in the means for DIV/EBIT.

[Insert Table 1 about here.]

In Panel B, we compare the dividends for privatized and non-privatized firms. The mean and median for the unscaled dividend variable (DIV) show that the privatized firms pay much larger dividends than the non-privatized firms. While the mean dividend payment by privatized companies in our sample is \$306.83 million, the average payment by non-privatized firms is only \$40.57 million.[21] Also, the median dividend paid by privatized firms (\$39.75 million) relative to non-privatized firms (\$1.18 million) highlights the fact that privatized firms pay much higher dividends. However, one can argue that the difference between DIV can be explained by the differences in the size of firms in these groups as privatized companies tend to be significantly larger. Therefore, we also examine the scaled measures of dividends. The pattern is consistent across all measures of dividends. Both the means and medians are higher for privatized firms and the differences are statistically significant at 1% level. In short, Table 1 shows that, consistent with previous studies, our sample of privatized firms exhibit a dividend premium relative to non-privatized firms.

Next, to better test for an association between privatization and dividend policy we examine the sample of privatized firms and a matching sample of non-privatized

size for this analysis.

[21] Von Eije and Megginson (2008) also compare unscaled dividends (page 357), where they examine 'the impact of privatization on the payout policies of divested firms', and show substantively similar results for firms in the European Union. They suggest that something about the event of privatization induces divested companies to increase not only the absolute level of dividend payments but also the fraction of earnings paid out to shareholders.

companies in a multivariate setting.[22] We use a dummy variable (PVT) to identify the privatized firms and a dummy variable (After) that is equal to one during post-listing years. We recognize that as firms transition from being fully state-owned to being privatized, other firm characteristics may change, some of which possibly related to the firm's dividend policy.[23] Therefore, we implement fixed effects regression models that include firm-level control variables.[24] We estimate model specifications that are variants of the following form:

$$\begin{aligned} DivPaid_{i,t} = \beta_1 + \beta_2 PVT_{i,t} + \beta_3 After_{i,t} + \beta_4 PVT * After_{i,t} \\ + Firm\ Controls + Fixed\ Effects + \epsilon_{i,t} \end{aligned} \tag{1}$$

where DivPaid refers to different payout measurements, i refers to the i^{th} individual firm and t refers to the year. Firm controls refer to a set of firm-level control variables with a one year lag. Furthermore, we include fixed effects: firm, industry, year and country, as appropriate. In separate models, we use DIV/SALES, the natural log of dividend payments (Von Eije and Megginson, 2008), DIV/TOTALASSETS, and DIV/EBIT as the dependent variable. In Model 1, we report a test for the familiar positive association between PVT and dividends. Our point of focus, in Models 2-6, is the coefficient for the interaction term between PVT and After (β_4) as it estimates the increase in dividends of privatized companies once listed, relative to listed non-privatized firms. We expect $\beta_4 > 0$. Findings are reported in Table 2.

[Insert Table 2 about here.]

We begin our analysis by using DIV/SALES as a proxy for a firm's dividend activity and including only the privatization dummy (PVT) as an explanatory variable in Model 1. Consistent with the univariate findings reported in earlier tables, we find a significant

[22]For each privatized firm we use propensity score matching to find, in the same year, a non-privatized matching firm based on country of origin, firm size, cash holdings, and growth in total assets. We require that both privatized and non-privatized firms have at least two years of data before and after the year of privatization. A covariate balancing test is performed which shows that the standardized difference on each matching criterion, across privatized and non-privatized firms, is sufficiently small (Smith and Todd, 2005). This covariate balancing test is available from the authors on request.

[23]Please refer to Appendix C for evidence of significant firm trait changes at privatization.

[24]This is similar to approach of Michaely and Roberts (2012) for non state-owned private firms which transit to having a public firm status.

positive relation between privatization and dividend payouts. The coefficient of 0.123 suggests that, compared to non-privatized companies, the DIV/SALES ratio for the privatized firms is about twice that of non-privatized firms.[25] However, Model 1 does not address whether the difference between the two groups can be associated with the event of privatization. Therefore, we create another dummy variable (After) that takes a value of one for years after the privatization and zero otherwise. In Model 2, the high statistical significance of the coefficient on the interaction term $PVT * After$ (1.189) suggests that the dividend premium is strongly associated with the event of privatization. In particular, this coefficient suggests that the difference in DIV/SALES, between the two groups, increases markedly after privatization. Next, to test the robustness of this finding, Model 3 includes proxy variables for different factors that have been shown to be associated with a firm's dividend policy. The coefficient on the PVT*After interaction term remains significant and positive. We continue our analysis by using alternate dependent variables to test the robustness of our findings. In Model 4, we use natural log of dividends as the dependent variable and find almost identical results to Model 3. Further, in Models 5 and 6, we use DIV/EBIT and DIV/TOTALASSETS and find consistent results. Our main takeaway from this table remains unchanged.[26]

We next include all the non-privatized firms in our sample in the regression models to further check, in line with Gugler (2003) and Von Eije and Megginson (2008), for an association between post-privatization dividends and the privatization dummy.[27] Our findings are reported in Table 3. The coefficients for the constant term and PVT in Model 1 are similar to those in Model 1 of Table 2, confirming the significance of PVT. Findings for Model 2 provide evidence on the same association between PVT and dividends, accounting for firm-level determinants of dividends. As expected, dividends

[25]The coefficient on the constant term in Model 1 of 0.103 is the DIV/SALES for non-privatized firms. This estimate increases by 0.123 for privatized firms. Hence, the DIV/SALES ratio for the privatized firms is about twice as high as for non-privatized firms [(0.103+0.123)/(0.103) = 2.19].

[26]In unreported results, we focus only on the privatized firms and replace the PVT dummy in Equation (1) with the REVENUE_NEW dummy, which takes a value of one if the state retained more than 50% ownership in the privatization. This enables us, in a constrained data set, to test for an association between the type (revenue vs control) of privatization and dividends. We find a statistically significant and positive coefficient for the REVENUE_NEW*After interaction in all models. These findings suggest that the revenue type privatization firms pay significantly higher dividends relative to the control type privatization firms in the three year window after privatization. We provide a more formal test of changes in dividend policy, across these two privatization types in post-privatization data, in the next section of the paper.

[27]Please refer to Appendix D for detail of tests of differences in firm characteristics of privatized and non-privatized firms.

are significantly negatively associated with CLOSE, LEVERAGE, SALESGROWTH, and INCOMERISK and significantly positively associated with CASH, RETE, EARNINGS, ABNORMALEARNING, and Ln (TOTALASSETS). As before, we check the robustness of the association, between PVT and dividends, by using different measures of dividends as the dependent variable. Our main explanatory variable of interest is PVT, which remains significantly and positively associated with dividends.[28] Hence, part one of our empirical work confirms that privatized firms pay higher dividends than prior to privatization and relative to non-privatized listed firms. It also suggests that revenue type privatizations pay higher dividends than control type privatizations.

[Insert Table 3 about here.]

4.2. Dividends by privatized firms and the extent of state ownership

In this section, we show a strong link between majority state ownership and dividend policy of privatized firms. In the first instance, we use regression models that account for industry, year, and country fixed-effects. The findings are reported in Table 4. We focus on the REVENUE_NEW variable, which is created based on our hand-collected data on state ownership over the years. It takes a value of one, each year, if the state retains a majority holding in the privatized firm, and zero otherwise. The positive and significant coefficient (0.146) on REVENUE_NEW in Model 1 shows a strong association between dividends (DIV/SALES) and whether the privatized firms have majority shareholdings.[29] In Model 2, we test whether the presence of an institutional investor or a foreign investor alters the inferred association between REVENUE_NEW and cash dividends. Our findings show a positive association between presence of a foreign investor and a privatized firm's dividend payouts. Foreign investors maintain oversight of managers' actions (Dyck, 2001), and it is also previously reported that institutional investors exert a high degree of monitoring of management activities (Boutchkova and Megginson, 2000; Ferreira and Matos, 2008). However, we find a statistically insignificant relation between DIV/SALES and the presence of in-

[28]Please refer to Appendix E for a multivariate analysis with a propensity score matched sample, which gives substantively the same finding.

[29]The coefficient on the constant term in Model 1 of 0.205 is the DIV/SALES for non-privatized firms. This estimate increases by 0.146 for privatized firms. Hence, the DIV/SALES ratio for the privatized firms is 70 % higher than that for non-privatized firms [(0.146+0.205)/(0.205) = 2.19]. This corresponds to a 14.6 percentage point DIV/SALES premium for privatized firms.

stitutional investors. Most importantly, addition of these variables hardly changes the statistical significance or the magnitude of the coefficient for REVENUE_NEW, which is the main variable of interest. In Model 3 we include our proxy for ownership concentration (CLOSE) and find an insignificant relation between ownership concentration and dividends paid by privatized companies.[30] The point of focus is the coefficient for REVENUE_NEW, which is practically unchanged. To further test the robustness of REVENUE_NEW, we include other known determinants of dividend policy in Model 4. As expected we find a positive relation between dividends and CASH, RETE, EARNINGS, and SALES/EMPLOYEES and a negative relation between dividends and LEVERAGE, ASSETGROWTH, and SALESGROWTH. The association between REVENUE_NEW and DIV/SALES is robust to the addition of these other determinants of dividends. A revenue type privatization, as predicted in Hypothesis 1, is shown to be associated with a 14.5 percentage point dividend-to-sales premium over that in a control type privatization. Next, we re-run Model 4 using the different measure of dividends, natural log of dividends, the dividends-to-EBIT ratio, and the dividends-to-total assets ratio as the dependent variable. The association between REVENUE_NEW and dividends remain unchanged in Models 5, 6, and 7. Therefore, the findings reported in Table 4 suggest that the privatized firms' dividends are related to the ownership structure, in particular, they are conditional on whether the state owns a majority stake in the firm.[31]

[Insert Table 4 about here.]

The state's decision to privatize a firm is not made at random but is rather a deliberate decision to select a company, or a fraction of a company, for privatization, that is likely to be viewed positively by investors. This, in turn, is constrained by the set of firms within specific industries which are initially owned by the state. State-owned companies with better market prospects, for instance in relation to sales growth, are more likely to generate substantial cash flows for the state, if divested. The state

[30]This finding is in line with discussion in Chay and Suh (2009) P. 91. They suggest that if there are agency conflicts between controlling and minority shareholders, the 'relationship between insider ownership and dividends may become weak or even positive'.

[31]Please refer to Appendix F for tests, in a similar vein, between dividends for partially versus fully privatized firms. These tests also show that less government ownership (i.e. fully privatized firms) pay out fewer dividends. Finally, in Appendix G find Probit regressions which show the importance of REVENUE_NEW in accounting for the likelihood of privatized firms paying dividends.

may prefer to 'make privatization look good by privatizing the healthiest firms first' (Megginson and Netter, 2001). Such improvements in company performance might account for the reported dividend increases after privatization, potentially making the dividend increases independent of the privatization event or the residual extent of state ownership. An empirical estimate consistent with a relation between privatization and dividend increases might thus arise due to a self-selection bias. In light of this rationale, our regressions of REVENUE_NEW on dividends act as a useful falsification test. In this vein, we highlight that the high dividends of revenue type privatizations, which we document, are despite and cannot be due to the self-selection bias of states to further privatize firms with better prospects. If the outlined self-selection bias had a first order impact on the inference, we would expect, to the contrary to our findings, control type privatizations to pay higher dividends than revenue type privatizations. Indeed, we expect, that the coefficient estimate on the extent of state ownership to be attenuated due to this self-selection bias.

Having said that, this latter falsification test result does not rule out the possibility of endogeneity compromising our inference in Table 4. Therefore, we use two-stage least square regressions with instrumental variables (IV2SLS) and a Heckman two-stage analysis (Heckman, 1979) in our attempt to mitigate the endogeneity concerns.

In line with Borisova and Megginson (2011), we conduct IV2SLS regressions, using the national deficit.[32] As argued by Borisova and Megginson (2011), if the national deficit is large and needs trimming, the state might be inclined to sell a higher proportion of its shares in the firm. We believe, in addition, that this instrument satisfies the exclusivity 'only through' criterion. Except for our discussion in this paper of the role the state's national deficit may have on dividends through REVENUE_NEW (i.e. the income hypothesis), there is no theory of dividend determination which specifies the national deficit as an explanatory variable for dividends.[33]

The findings for the IV2SLS regressions are reported in Model 1 of Table 5. In Stage 1 of the model, we regress REVENUE_NEW on the instrument together with the full set of control variables and industry and year fixed effects. We find a significant relation

[32]National deficit is defined as the ratio of a nation's outstanding debt to its gross domestic product (GDP). This data is obtained from the International Monetary Fund's World Economic Outlook database.

[33]See also our Table 7 Panel B which indicates an absence of support for the inclusion of national deficit in the DIV/SALES regression of privatized firms.

between REVENUE_NEW and the instrument.[34] The findings for Stage 2 show that the estimated exogeneous component of REVENUE_NEW significantly impacts dividends. Its coefficient is positive and highly statistically significant. Indeed, as per our expectation, our main finding, in regard to the influence of the extent of government ownership on dividends, has become even stronger once we mitigated for endogeneity bias.

We also conduct, in line with Chen *et al.* (2018), a Heckman two-stage analysis (Heckman, 1979) to address sample selection concerns. The findings are reported in Model 2 of Table 5. In the first Stage, we use a Probit model to predict whether governments retain control over privatized firms (REVENUE_NEW). In particular, for Stage 1, we regress REVENUE_NEW on total government holdings, TOTALGOVHOLDING (which we have for 101 European privatized firms, from KPMG Advisory's Privatization Barometer), National Deficit and the full set of control variables, and industry and year fixed effects, as in Model 4 of Table 4. In the reported second Stage regression, our dependent variable is DIV/SALES and we include the bias correction term, Lambda (inverse Mills ratio), in the model. As per our findings concerning the influence of state control in privatized firms (REVENUE_NEW) on their dividends, a positive relation is inferred between DIV/SALES and total government holdings (TOTALGOVHOLDING). Further, Lambda loads positively and is statistically significant at the 1% level.

[Insert Table 5 about here.]

Overall, our conclusions for Table 5 are similar to those for Table 4. The results discussed so far are, however, consistent with both the reputation and income hypotheses. In the next section, we implement empirical tests that allow us to distinguish between the two hypotheses.

4.3. Discerning empirically between the reputation and income hypotheses

The results discussed up to this point suggest a positive impact of whether the state owns more than 50% of the shares on dividends paid. However, this positive relation

[34]We follow Chen *et al.* (2018), to check the relevance of the instruments by conducting an F-test and the Kleibergen and Paap (2006) rk LM test. The significant F-stat in the two models rejects the null hypothesis that the instrument does not explain state ownership. Similarly the Kleibergen-Paap rk LM test rejects the null that the model is under-identified. Both the tests are significant at 1% level.

is consistent with both the hypotheses we propose: reputation and income. We next implement empirical tests that enable us to discern between the economic importances of these two explanations. While the models presented in Panels A, B, and C of Table 6 test the validity of the reputation hypothesis, models in Panels A, B, and C of Table 7 test the income hypothesis.

We test the reputation hypothesis in three ways: While all privatized firms may benefit from a reputation of fair treatment to minority shareholders, states in civil law countries are likely to have higher incentives. La Porta *et al.* (2000) state that 'A reputation for good treatment of shareholders is worth most in countries with weak legal protection of minority shareholders'. Therefore, we posit that the state, especially when it holds a majority of the voting shares, in a weak minority shareholder rights setting, may induce management to pay out sufficient dividends to build a reputation of fair treatment of its minority shareholders.[35] In other words, we propose that partially privatized firms in civil law countries are likely to pay higher dividends, especially if the state has majority shareholdings. To test this argument, we include a time invariant COMMONLAW dummy (La Porta *et al.*, 2000) and an interaction between COMMONLAW and REVENUE_NEW in our regression models. The results are reported in Panel A of Table 6. Model 1 shows that the coefficient (0.635) for REVENUE_NEW is positive and significant, suggesting that in civil law countries, revenue type privatized firms pay higher dividends than control type privatized firms. The insignificant coefficient (-0.138) for COMMONLAW suggests there is no significant difference in dividends by control type privatized firms in common law verses civil law countries. Last, as predicted in Hypothesis 2, we find a significant negative coefficient (-0.558) for the interaction term, which indicates that the revenue type privatized firms, in comparison with control type privatized firms, pay even lower dividends in common than in civil law countries. In Models 2 through 5, we check the robustness of this finding by extending the model to include a full set of control variables and by using the other measures of dividends as the dependent variable. The results remain practically unchanged. We consider these findings to be consistent with the reputation hypothesis.

[Insert Table 6 about here.]

[35] In a similar line of argument, Gomes (2000) shows that large block holders of shares may choose to not expropriate minority shareholders and rather build up a reputation of treating minority shareholders well.

In Panel B of Table 6, we replace the COMMONLAW dummy with the rule of law variable (La Porta *et al.*, 2000; Kaufmann *et al.*, 2016). Unlike COMMONLAW, the RULELAW is time-varying. This allows our inference to control for country fixed effects, alongside year and industry fixed effects. Similar to the earlier argument, we expect that revenue type privatized firms in countries with weak rule of law to protect minority shareholders, to pay higher dividends. The findings are consistent with those reported in Panel A of Table 6. We find a significant positive coefficient on REVENUE_NEW, an insignificant coefficient on RULELAW, and a significant negative coefficient for the interaction between the two. Last, we check the robustness of these findings by using the time invariant anti-self-dealing index (SHAREHOLDER-RIGHT), a measure of legal protection of minority shareholders, proposed by Djankov *et al.* (2008). The findings, reported in Panel C of Table 6, are qualitatively the same: revenue type privatized firms pay higher dividends in countries with lower legal protection of minority shareholders against expropriation. Therefore, we conclude that our findings, represented in Table 6, are consistent with the reputation hypothesis.

We next check the validity of the income hypothesis. We begin with considering the political ideological orientation of the state. We distinguish between the left-wing and right-wing governments. While right-wing governments are likely to be more market-oriented, left-wing governments are likely to have a preference for retaining control of a privatized firm, which limits its ability to raise cash flows via capital market transactions. Therefore, according to the income hypothesis, dividends are likely to be higher in left-wing oriented political regimes, especially if the state has majority shareholding in the firm because that would give the state a larger influence on the firm's dividend policies. We test the hypothesis by including a LEFTWING dummy variable in our regression models. The results are reported in Panel A of Table 7. Model 1 includes REVENUE_NEW, LEFTWING, and the interaction between the two. While we still find a significant positive coefficient (0.128) for REVENUE_NEW, we find no statistical significance for the coefficients on LEFTWING and the interaction term. As a result, our finding is contrary to the prediction of Hypothesis 3. In Model 2, when we include a full set of control variables, this main finding remains unchanged. We replace the DIV/SALES with other measure of dividends as the dependent variable and find very similar results in Models 3, 4, and 5. These findings are inconsistent with the explanation that states use higher dividends as a way of extracting income from partially privatized firms.

We next test the income hypothesis by examining the national deficit, defined as a

ratio of the outstanding debt and GDP. Borisova and Megginson (2011) suggest that significant revenues from share issue privatizations 'could induce governments to sell greater portions of their holdings, particularly if a large national deficit needs trimming'. In a similar vein, a government that is cash-strapped is more likely to use dividends by partially privatized firms as a source of income, especially if it has majority shareholdings. Therefore, we test for an association between dividends and NATIONALDEFICIT, especially for revenue type firms. The results are reported in Panel B of Table 7. Model 1 with DIV/SALES as the dependent variable, includes REVENUE_NEW, NATIONALDEFICIT, and the interaction between those two variables. While the income hypothesis predicts a positive coefficient on the NATIONALDEFICIT and the interaction term, we find statistically insignificant coefficients on both. In Model 2, when we include a full set of control variables, our main finding remains unchanged. It again refutes the income hypothesis. Like before the findings for alternate measure of dividends, reported in Models 3 through 5, are very similar.

We give income hypothesis another chance to explain high dividends of privatized firms, by including both the LEFTWING and NATIONALDEFICIT in the same model. Using a triple interaction term, REVENUE_NEW * LEFTWING * NATIONALDEFICIT, we check whether cash-strapped, revenue type privatized firms controlled by left-wing oriented states pay higher dividends. We find no such association in any of the models, as presented in Panel C of Table 7.

[Insert Table 7 about here.]

Although the results discussed in the previous section were consistent with both the reputation and income hypotheses, we tested each hypothesis individually by implementing different tests. Our findings are strongly in favor of the reputation explanation and refute the income explanation. In the next section, we check whether alternative explanations such as life-cycle theory or tax implications can explain our findings.

5. Alternative explanations and additional discussion

In this section we perform additional tests and check for alternative theories that can explain our findings. In particular, we consider whether the higher dividends by privatized firms can be accounted for by life-cycle/ financial maturity explanations for dividends (Fama and French, 2001; Grullon *et al.*, 2002; DeAngelo *et al.*, 2006). Our findings on the interlinked life-cycle and maturity explanations for higher dividends

of privatized firms are mixed, with most results indicating the relative unimportance of this cadre of explanation for our sample of privatized companies. For instance, we test whether privatized firms are in a mature financial life-cycle phase. As companies move from the growth phase to a more mature phase of their financial life-cycles, their investment opportunity sets start to contract and they experience reductions in capital spending, which can make them better candidates for distributing retained earnings to shareholders (Fama and French, 2001; Grullon *et al.*, 2002). We examine the change in total assets and growth opportunities of privatized companies and find results that refute this prediction. Not only do total assets increase significantly after privatization, but so do sales and earnings: this is evidence of newly privatized firms entering a growth phase of their financial life-cycles.[36] To test the DeAngelo *et al.* (2006) version of the life-cycle/ financial maturity hypothesis, we include the retained earnings to total equity (RETE) ratio in all our regressions models. While the coefficient for RETE is positive as predicted by the theory, it is statistically significant only about half the time. Therefore, we consider our findings to be mixed with regard to the life-cycle explanation of dividends. However, the use of RETE as a proxy for the life-cycle theory has recently come under scrutiny (Banyi and Kahle, 2014). To further investigate the issue, we replace the RETE variable with firm age to proxy for the life cycle of a firm. The findings are reported in Panel A of Table 8. To the extent that firm age can proxy for the life-cycle stage, we find no evidence supporting the theory. The coefficient for the natural log of age is either statistically insignificant (Models 3 and 6) or has a negative sign (Models 1, 2, 4, and 5). The coefficients on REVENUE_NEW and various proxies for shareholder protection rights, on the other hand, remain significant. Therefore, we do not think life-cycle theory is the explanation for our findings.

[Insert Table 8 about here.]

We next check whether the presence of a control variable for the country's level of dividend tax penalty has an impact on our main findings. It is possible that the variation internationally, and over time, in the relative taxation of dividends and capital gains can influence the dividend payment decision of privatized companies. Therefore, we include a dividend tax penalty (TAXPENALTY) variable attributable to Poterba and Summers (1984). The results are reported in Panel B of Table 8. The coefficient

[36] See Appendix C for detail.

for TAXPENALTY is statistically insignificant in all models while the main results hold across all models.[37] In short, the findings cannot be explained by variation in international dividend taxes.

6. Conclusion

We use a unique hand-collected sample of 191 privatized firms (2,119 firm years) to map the extent of state ownership in privatized firms throughout our sample period. We hypothesize that a reputation mechanism, to allay the expropriation concerns of minority shareholders, and/or an income mechanism, to extract cash to supplement state income, can explain the high dividends of privatized firms. The two mechanisms relate to prospective agency conflict between the state and minority shareholders. These explanations, for the high dividends of privatized firms, have greater credibility the greater the extent of state ownership in the privatized firms. Consistent with both explanations, we find that state ownership is positively related to cash dividends. This result is invariant to a variety of measures of cash dividends paid (dividend-to-sales ratio, the natural logarithm of dividends, dividend-to-earnings ratio, and dividends-to-total assets ratio), endogeneity tests, and a large set of control variables.

We, in addition, discern between the relative empirical importance of the reputation and income explanations of privatized firms' high dividends. We show that the dividends of revenue type privatizations (i.e. where the state retains a majority shareholding in the privatized firm) vary inversely with proxies for the level of minority shareholder protection internationally (La Porta *et al.*, 2000, 1998; Djankov *et al.*, 2008; Kaufmann *et al.*, 2016), to an even greater extent than control type privatizations (i.e. where the state retains a minority shareholding in the privatized firm). To the extent that the reputation hypothesis is unimportant, the dividends of revenue type privatizations should be independent of or positively associated with minority shareholder protection. We also show that the political ideology of the state (Biais and Perotti, 2002; Ben-Nasr *et al.*, 2012) is independent of the dividends of privatized firms. A left-wing political orientation of the state can imply an aversion towards the concession of control of a privatized firm to the market. This, in turn, impedes the state from generating income by transactions in the capital market. Finally, we show that governments with a large national deficit don't appear to extract fiscal income by way of dividends, even when

[37] If we alternatively use the dividend tax penalty variable of Jacob and Jacob (2013) we obtain substantively the same result. The results are available from the authors on request.

such governments have a left-wing political orientation. Our findings suggest the relative importance of the state's reputation with minority shareholders to account for the high dividends of privatized firms.

The prevalence around the world of partially privatized and fully state-owned companies, and the absence of an empirical basis for predicting the impact that altered state ownership will have on listed firm dividends, highlights the importance of our study. In identifying the empirical relevance of a reputation hypothesis to account for the high dividends of privatized firms we provide the first credible explanation for these high dividends.

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Table 1: Change in firm dividends around privatization and difference in dividends for privatized *vs.* non-privatized firms: Univariate analysis

Panel A reports univariate analysis of dividends around the event of privatization. Specifically, it reports various dividend measures for privatized firms during 3 years before and 3 years after privatization. N refers to the number of firms observed for the variable. In Panel A, we require firms to have at least 2 consecutive years of data both before and after privatization. Consequently, the firms included for this analysis are privatized between 1992 and 2011. Expected Change refers to the anticipated change in the proxy dividend variable after privatization. Sign refers to the expected sign of the difference in mean and median proxy variable values from before to after privatization. Proportion refers to the percentage of firms whose proxy values change as expected, as well as a test of significance of this change (Z-statistics). Before and After refer to the mean and median values of the proxy variables for the 3-year periods before and after privatization. Difference refers to the difference in mean and median values for Before and After. Panel B reports comparison of dividend measures for privatized and non-privatized firms used in this study from 1990 through 2013. N is the number of firm-years observed for the variable. Mean and median are the arithmetic average and median value for each dividend variable. We use the two-sample mean-comparison test (T-statistics) and the Wilcoxon signed rank test (Z-statistics) to test the significance of differences in mean and median values, respectively. Please refer to Appendix A for detailed definitions of all variables.

Panel A: Changes in dividends around privatization

		Expected Change		Mean			Median		
	N	Sign	Proportion	Before	After	Difference	Before	After	Difference
Payout									
DIV	120	(+)	0.792 [a]	103.835	209.471	105.635 [a]	17.793	37.270	19.478 [a]
DIV/SALES	120	(+)	0.683 [a]	0.031	0.044	0.014 [a]	0.013	0.027	0.014 [a]
DIV/EBIT	116	(+)	0.698 [a]	0.220	0.356	0.136 [c]	0.126	0.239	0.113 [a]
DIV/TOTALASSETS	120	(+)	0.708 [a]	0.016	0.025	0.009 [a]	0.008	0.016	0.008 [a]

Panel B: Dividends for privatized *vs.* non-privatized firms

	Privatized Firms			Non-Privatized Firms			Difference in	
	N	Mean	Median	N	Mean	Median	Mean	Median
Payout								
DIV	3230	306.830	39.750	77437	40.568	1.180	266.262 [a]	38.570 [a]
DIV/SALES	3228	0.276	0.299	75428	0.081	0.063	0.195 [a]	0.236 [a]
DIV/EBIT	2923	0.477	0.550	60122	0.233	0.282	0.244 [a]	0.268 [a]
DIV/TOTALASSETS	3230	0.233	0.251	77352	0.072	0.060	0.161 [a]	0.190 [a]

a, b, and c represent significance at the 1%, 5% and 10% levels, respectively.

Table 2: Relation between privatization event and dividends around the privatization event

This Table reports regression models that test for an association between the privatization event and dividends. We use a propensity score matching (PSM) approach and find a matching non-privatized firm for each privatized firm. The matching is performed using the same year of listing, country of origin, firm's total assets, cash holdings, and growth in total assets. For this multivariate analysis, we limit the sample from 3 years before to 3 years after listing and require the firm to have at least 2 year of data both before and after privatization. As a result, the sample size of privatized firms is smaller in this Table. PVT is a dummy variable that is equal to 1 for privatized firms and 0 for non-privatized firms. After is a dummy variable that is equal to 1 during post-listing years and 0 otherwise. PVT_After refers to the interaction between the two dummy variables. The dependent variable in Models 1-3 is DIV/SALES. We test the robustness of the findings, in Models 4-6, by using different dependent variables (Ln (1+DIV), DIV/EBIT, and DIV/TOTALASSETS) to capture dividends. We control for the firm-level and industry-level fixed effects, year fixed effects, and country fixed effects. Values under Coeff correspond to the regression coefficients and P-Val corresponds to the level of significance of the Z-value calculated using robust standard errors at the firm-level. Please refer to Appendix A for detailed definitions of all variables.

Dependent Variable →	DIV/SALES		DIV/SALES		DIV/SALES		Ln (1+DIV)		DIV/EBIT		DIV/TOTALASSETS	
Independent Variables ↓	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val
PVT	0.123	0.007										
After			-0.859	0.068	-0.799	0.028	-0.394	0.401	-1.327	0.009	-0.634	0.027
PVT_After			1.189	0.009	0.962	0.005	1.176	0.021	1.358	0.006	0.813	0.004
CLOSE					0.662	0.051	0.883	0.018	0.426	0.371	0.618	0.009
CASH					0.393	0.363	0.223	0.634	0.113	0.858	0.090	0.781
LEVERAGE					-2.173	0.001	-2.864	0.000	-5.206	0.000	-2.119	0.000
RETE					0.001	0.994	0.027	0.792	0.349	0.206	0.031	0.682
EARNINGS					1.155	0.170	2.303	0.061	-3.211	0.153	2.413	0.020
ABNORMALEARNING					0.007	0.000	0.009	0.000	0.010	0.025	0.007	0.000
SALES/EMPLOYEES					0.067	0.496	0.131	0.382	0.205	0.289	0.080	0.586
ASSETGROWTH					-0.189	0.111	-0.323	0.051	-0.091	0.835	-0.390	0.051
SALESGROWTH					-0.294	0.074	-0.122	0.068	-0.842	0.100	-0.078	0.142
Ln (TOTALASSETS)					0.136	0.088	0.935	0.000	0.233	0.029	0.073	0.255
INCOMERISK					-1.676	0.474	-3.202	0.270	-6.726	0.135	-0.122	0.959
CATERING					0.185	0.256	0.282	0.164	0.072	0.763	0.178	0.176
GDPGROWTH					-3.812	0.095	-2.836	0.380	-6.946	0.095	-4.099	0.076
YEAR					0.021	0.065	0.004	0.092	0.071	0.008	0.005	0.089
Constant	0.103	0.000	2.353	0.000	2.137	0.008	-2.486	0.002	5.324	0.000	2.202	0.000
Observation	578		578		578		578		522		578	
Firms	190		190		190		190		182		190	
Rsq. Overall	0.455		0.101		0.175		0.523		0.170		0.233	
Firm fixed effects	No		Yes		Yes		Yes		Yes		Yes	
Ind. fixed effects	Yes		No		No		No		No		No	
Year fixed effects	Yes		Yes		Yes		Yes		Yes		Yes	
Country fixed effects	Yes		No		No		No		No		No	

Table 3: Relation between privatization and dividends using the full sample

This Table reports results for regression models using all privatized and non-privatized firms in our sample during 1990 to 2013. In Models 1 and 2, DIV/SALES is used as the dependent variable. We test the robustness of the findings, in Models 3-5, using different dependent variables to capture dividends. PVT is a dummy variable that is equal to 1 for privatized firms and 0 for non-privatized firms. To reduce the endogeneity problem the independent variables, except for the time invariant dummy (PVT) and YEAR, are lagged by one year. We control for the firm-level industry fixed effects, year fixed effects, and country fixed effects. Values under Coeff correspond to the regression coefficients and P-Val corresponds to the level of significance of the Z-value calculated using robust standard errors at the firm-level. Please refer to Appendix A for detailed definitions of all variables.

Dependent Variable →	DIV/SALES		DIV/SALES		Ln (1+DIV)		DIV/EBIT		DIV/TOTALASSETS	
Independent Variables ↓	Model 1		Model 2		Model 3		Model 4		Model 5	
	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val
PVT	0.180	0.000	0.156	0.000	1.328	0.000	0.203	0.000	0.140	0.000
CLOSE			-0.021	0.023	-0.236	0.000	-0.046	0.017	-0.034	0.001
CASH			0.043	0.000	0.212	0.000	0.007	0.233	0.017	0.000
LEVERAGE			-0.094	0.000	-1.265	0.000	-0.214	0.000	-0.097	0.000
RETE			0.004	0.000	0.046	0.000	0.013	0.000	0.004	0.000
EARNINGS			0.015	0.000	-0.001	0.849	0.106	0.000	0.001	0.406
ABNORMALEARNING			0.003	0.002	0.001	0.000	-0.003	0.204	0.002	0.000
SALES/EMPLOYEES			0.002	0.794	0.002	0.077	0.004	0.039	0.015	0.359
ASSETGROWTH			-0.001	0.269	-0.082	0.000	0.001	0.869	0.000	0.684
SALESGROWTH			-0.003	0.002	-0.019	0.024	-0.009	0.001	-0.001	0.050
Ln (TOTALASSETS)			0.012	0.000	0.598	0.000	0.028	0.000	0.008	0.000
INCOMERISK			-0.013	0.099	0.134	0.000	-0.094	0.059	-0.001	0.672
CATERING			-0.001	0.135	-0.054	0.000	-0.002	0.243	-0.002	0.003
GDPGROWTH			0.083	0.000	1.972	0.000	0.033	0.447	0.107	0.000
YEAR			0.004	0.006	0.007	0.001	0.006	0.024	0.006	0.000
Constant	0.061	0.007	0.005	0.814	-2.427	0.000	0.011	0.663	0.017	0.262
Observation	52326		52326		52624		38197		52600	
Firms	5074		5074		5087		4628		5087	
Rsq. overall	0.217		0.335		0.636		0.263		0.304	
Ind. fixed effects	Yes		Yes		Yes		Yes		Yes	
Year fixed effects	Yes		Yes		Yes		Yes		Yes	
Country fixed effects	Yes		Yes		Yes		Yes		Yes	

Table 4: Relation between state ownership and dividends of privatized firms

This Table reports results for panel regressions that use only privatized firms to test for a relation between the extent of state ownership and dividends. Once a firm was privatized, we tracked news articles, among other sources, that show whether the state has majority (>50%) shareholdings or not during the post-privatization years throughout our sample period. We were able to gather information on 191 privatized firms. REVENUE_NEW, a dummy variable, is equal to 1 in a particular year if the state owns more than 50% shares at the end of that fiscal year and 0 otherwise. FOREIGN and INSTITUTIONAL are dummy variables that, respectively, indicate a presence of foreign or institutional investor in the firm's ownership structure. The dependent variable in Model 1 through Model 4 is DIV/SALES. In Models 5, 6, and 7, we re-test Model 4 using Ln (1+DIV), DIV/EBIT, and DIV/TOTALASSETS as the dependent variables, respectively. To reduce the endogeneity problem the independent variables, except for the time invariant dummies (FOREIGN and INSTITUTIONAL) and YEAR, are lagged by one year. We control for the firm-level industry fixed effects, year fixed effects, and country fixed effects. Values under Coeff correspond to the regression coefficients and P-Val corresponds to the level of significance of the Z-value calculated using robust standard errors at the firm-level. Please refer to Appendix A for detailed definitions of all variables.

Dependent Variable →	DIV/SALES		DIV/SALES		DIV/SALES		DIV/SALES		Ln (1+DIV)		DIV/EBIT		DIV/TOTALASSETS	
Independent Variables ↓	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val
REVENUE_NEW	0.146	0.002	0.135	0.006	0.131	0.008	0.145	0.002	1.362	0.000	0.094	0.080	0.094	0.003
FOREIGN			0.121	0.095	0.120	0.098	0.144	0.048	0.867	0.000	-1.777	0.321	0.083	0.023
INSTITUTIONAL			0.028	0.706	0.033	0.662	0.063	0.447	0.617	0.000	1.380	0.298	0.084	0.002
CLOSE					0.067	0.538	0.055	0.579	0.439	0.038	-0.137	0.225	0.008	0.832
CASH							0.455	0.018	0.388	0.116	0.170	0.188	0.183	0.004
LEVERAGE							-0.439	0.006	-2.318	0.000	-0.763	0.000	-0.194	0.008
RETE							0.023	0.059	0.180	0.003	0.015	0.178	0.020	0.073
EARNINGS							1.013	0.002	4.281	0.000	-0.265	0.429	1.250	0.000
ABNORMALEARNING							0.001	0.968	0.003	0.000	0.002	0.823	0.002	0.005
SALES/EMPLOYEES							0.010	0.044	0.041	0.042	0.016	0.052	0.060	0.015
ASSETGROWTH							-0.233	0.072	-0.098	0.072	-0.105	0.113	-0.074	0.025
SALESGROWTH							-0.304	0.077	-0.198	0.055	-0.094	0.088	-0.060	0.064
Ln (TOTALASSETS)							0.027	0.229	0.700	0.000	0.039	0.333	0.023	0.026
INCOMERISK							-0.158	0.609	0.002	0.999	0.778	0.620	0.766	0.011
CATERING							0.058	0.260	-0.015	0.830	-0.028	0.424	0.022	0.109
GDPGROWTH							-0.242	0.707	3.126	0.054	-0.910	0.111	0.828	0.072
YEAR							0.004	0.040	0.025	0.008	0.005	0.036	0.002	0.052
Constant	0.205	0.375	0.083	0.638	0.097	0.641	-0.044	0.863	-3.902	0.000	0.362	0.677	-0.032	0.782
Observation	2119		2119		2119		2119		2120		1824		2120	
Firms	191		191		191		191		191		188		191	
Rsq. overall	0.220		0.222		0.222		0.287		0.691		0.109		0.428	
Ind. fixed effects	Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Year fixed effects	Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Country fixed effects	Yes		Yes		Yes		Yes		Yes		Yes		Yes	

Table 5: Mitigating endogeneity in the relation between state ownership and dividends of privatized firms

This Table reports the results for the Instrumental Variable Two-Stage Least Squares (IV2SLS) in Model 1 and Heckman (1979) sample selection model in Model 2. REVENUE_NEW is a dummy variable that is equal to 1 in a particular year if the state owns more than 50% shares at the end of that fiscal year and 0 otherwise. Similar to Table 4, in Model 1 these regressions include 191 privatized firms for the 1990 to 2013 period. Results for both Stage 1 and Stage 2 of the IV2SLS and Heckman model are reported. Model 1 instruments REVENUE_NEW using the national deficit at the end of the fiscal year. In Model 2, Heckman sample selection model controls for the inverse Mills ratio (*Lambda*). In the first stage, we use a Probit model to predict whether governments retain control over the privatized firms after listing by controlling for the TOTALGOVHOLDING of 101 European privatized firms for which the data are available from Privatization Barometer. In particular, we regress REVENUE_NEW on national deficit at the end of the fiscal year, and the full set of control variables. To avoid multicollinearity, we exclude CLOSE from the Heckman sample selection model. We control for the firm-level industry fixed effects, and year fixed effects. Values under Coeff correspond to the regression coefficients and P-Val corresponds to the level of significance of the Z-value calculated using robust standard errors at the firm-level. Please refer to Appendix A for detailed definitions of all variables.

	Model 1				Model 2			
Dependent Variables →	REVENUE_NEW		DIV_Sales		REVENUE_NEW		DIV_Sales	
Independent Variables ↓	Stage 1		Stage 2		Stage 1		Stage 2	
	Coeff.	P-Val.	Coeff.	P-Val.	Coeff.	P-Val.	Coeff.	P-Val.
NATIONALDEFICIT	-0.158	0.006			-0.687	0.001		
REVENUE_NEW			0.943	0.013				
TOTALGOVHOLDING					6.585	0.000	0.486	0.000
FOREIGN	0.187	0.000	0.242	0.007	-0.246	0.078	0.097	0.006
INSTITUTIONAL	0.116	0.002	0.154	0.015	0.578	0.000	0.075	0.029
CLOSE	0.394	0.000	0.399	0.000				
CASH	0.522	0.000	0.616	0.029	0.076	0.080	0.322	0.000
LEVERAGE	0.339	0.001	0.345	0.068	0.204	0.615	-0.112	0.092
RETE	0.022	0.245	0.035	0.055	-0.504	0.000	-0.032	0.415
EARNINGS	1.599	0.000	1.010	0.067	0.169	0.840	2.260	0.000
ABNORMALEARNING	-0.001	0.071	0.005	0.000	0.001	0.764	0.009	0.050
SALES/EMPLOYEES	-0.009	0.466	0.026	0.090	0.053	0.382	0.064	0.001
ASSETGROWTH	-0.237	0.287	-0.191	0.092	0.142	0.672	0.093	0.279
SALESGROWTH	0.288	0.072	-0.246	0.085	-0.441	0.157	-0.103	0.063
Ln (TOTALASSETS)	-0.060	0.000	-0.029	0.338	0.051	0.198	-0.003	0.750
INCOMERISK	-1.416	0.000	-1.538	0.028	-2.147	0.287	0.866	0.065
CATERING	0.118	0.000	-0.020	0.718	-0.059	0.643	-0.029	0.312
GDPGROWTH	-0.066	0.894	1.630	0.004	0.124	0.960	0.215	0.711
YEAR	0.005	0.047	0.011	0.002	-0.035	0.002	0.007	0.003
Constant	0.370	0.000	0.559	0.001	-3.438	0.000	-0.177	0.285
Lambda							0.145	0.023
Observation	2119		2119		1433		1433	
Firms	191		191		101		101	
Adjusted Rsq.	0.127				0.655			
Ind. fixed effects	Yes		Yes		Yes		Yes	
Year fixed effects	Yes		Yes		Yes		Yes	
Kleibergen-Paap rk LM								
Chi-sq	7.62				255.66			
P-Value	0.006				0.000			
Excluded Instrument Test								
F-Stat	16.59							
Probability	0.000							

Table 6: Relation between state ownership and dividends of privatized firms in light of minority shareholder protection

This Table reports results for panel regression models for 191 privatized firms during 1990 through 2013. Using three different proxies for minority shareholder protection, we empirically test the predictions of our *reputation* hypothesis. In Panel A, we report the results for the common law dummy (COMMONLAW), in Panel B, we report the results for the effectiveness and enforcement of law and order in a country (RULELAW) and in Panel C we report the results for the minority shareholder protection in a country (SHAREHOLDERRIGHT). Across the three panels, in Models 1 and 2, the dependent variable is DIV/SALES. In Models 3, 4, and 5, we re-test Model 2 using Ln (1+DIV), DIV/EBIT, and DIV/TOTALASSETS as the dependent variables, respectively. To reduce the endogeneity problem the independent variables, except for the time invariant dummies (COMMONLAW, SHAREHOLDERRIGHT, FOREIGN, and INSTITUTIONAL) and YEAR, are lagged by one year. We control for the firm-level industry fixed effects and year fixed effects across all the models, and country fixed effects for the models in Panel B. Values under Coeff correspond to the regression coefficients and P-Val corresponds to the level of significance of the Z-value calculated using robust standard errors at the firm-level. Please refer to Appendix A for detailed definitions of all variables.

Panel A (Governance - COMMONLAW)

Dependent Variable →	DIV/SALES		DIV/SALES		Ln (1+DIV)		DIV/EBIT		DIV/TOTALASSETS	
Independent Variables ↓	Model 1		Model 2		Model 3		Model 4		Model 5	
	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val
REVENUE_NEW	0.635	0.008	0.598	0.013	0.651	0.012	0.249	0.000	0.232	0.012
COMMONLAW	-0.138	0.324	-0.190	0.252	-0.406	0.092	0.695	0.351	-0.006	0.891
REVENUE_NEW * COMMONLAW	-0.558	0.011	-0.522	0.011	-0.602	0.014	-0.026	0.087	-0.175	0.022
FOREIGN			0.216	0.006	0.940	0.000	-0.978	0.329	0.101	0.003
INSTITUTIONAL			0.085	0.364	0.717	0.000	1.253	0.331	0.117	0.000
CLOSE			0.096	0.339	-0.519	0.010	-0.149	0.192	0.001	0.974
CASH			0.442	0.024	0.425	0.079	0.114	0.435	0.174	0.005
LEVERAGE			-0.369	0.020	-2.111	0.000	-0.834	0.000	-0.164	0.019
RETE			0.021	0.284	0.176	0.005	-0.015	0.539	0.020	0.139
EARNINGS			1.011	0.002	4.180	0.000	-0.157	0.514	1.249	0.000
ABNORMALEARNING			0.010	0.040	0.301	0.000	0.026	0.006	0.028	0.000
SALES/EMPLOYEES			0.010	0.042	0.040	0.044	0.013	0.056	0.062	0.015
ASSETGROWTH			-0.217	0.032	-0.099	0.057	-0.061	0.048	-0.067	0.013
SALESGROWTH			0.309	0.301	0.219	0.166	0.049	0.649	-0.061	0.024
Ln (TOTALASSETS)			-0.041	0.056	0.703	0.000	0.048	0.239	-0.028	0.003
INCOMERISK			-0.280	0.392	-0.478	0.780	0.765	0.491	0.703	0.019
CATERING			0.067	0.009	0.012	0.869	-0.018	0.552	0.028	0.029
GDPGROWTH			-0.208	0.716	2.199	0.142	-0.232	0.806	0.600	0.126
YEAR			0.004	0.042	0.018	0.020	0.009	0.015	0.001	0.069
Constant	0.353	0.029	0.260	0.271	-3.588	0.000	-1.314	0.308	0.002	0.981
Observation	2119		2119		2120		1824		2120	
Firms	191		191		191		188		191	
Rsq. overall	0.144		0.225		0.660		0.102		0.401	

Ind. fixed effects	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Country fixed effects	No	No	No	No	No

Panel B (Governance - RULELAW)

Dependent Variable →	DIV/SALES		DIV/SALES		Ln (1+DIV)		DIV/EBIT		DIV/TOTALASSETS	
Independent Variables ↓	Model 1		Model 2		Model 3		Model 4		Model 5	
	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val
REVENUE_NEW	0.184	0.000	0.177	0.000	0.385	0.004	0.116	0.046	0.107	0.001
RULELAW	0.159	0.161	0.075	0.501	0.321	0.535	-0.159	0.229	0.073	0.361
REVENUE_NEW * RULELAW	-0.129	0.001	-0.118	0.002	-0.222	0.000	-0.078	0.054	-0.051	0.001
FOREIGN			0.154	0.034	0.883	0.000	-1.772	0.322	0.087	0.017
INSTITUTIONAL			0.073	0.384	0.640	0.000	1.383	0.297	0.089	0.001
CLOSE			0.088	0.371	0.379	0.073	-0.109	0.294	0.022	0.540
CASH			0.454	0.017	0.386	0.114	0.168	0.200	0.183	0.004
LEVERAGE			-0.380	0.017	-2.173	0.000	-0.743	0.000	-0.167	0.024
RETE			0.021	0.288	0.175	0.006	0.014	0.363	0.019	0.163
EARNINGS			0.977	0.002	4.228	0.000	-0.289	0.398	1.232	0.000
ABNORMALEARNING			0.001	0.094	0.003	0.000	0.002	0.079	0.002	0.000
SALES/EMPLOYEES			0.011	0.041	0.042	0.041	0.015	0.053	0.059	0.015
ASSETGROWTH			-0.244	0.026	-0.121	0.049	-0.101	0.024	-0.079	0.007
SALESGROWTH			-0.314	0.058	0.212	0.184	0.099	0.328	-0.063	0.045
Ln (TOTALASSETS)			-0.027	0.215	0.698	0.000	0.040	0.324	-0.023	0.027
INCOMERISK			-0.244	0.398	-0.106	0.949	0.688	0.654	0.736	0.012
CATERING			0.056	0.030	-0.021	0.768	-0.027	0.421	0.021	0.124
GDPGROWTH			-0.308	0.640	2.873	0.077	-0.810	0.165	0.772	0.079
YEAR			0.002	0.065	0.021	0.014	0.004	0.046	0.001	0.074
Constant	0.230	0.207	0.015	0.952	-3.710	0.000	0.306	0.725	0.009	0.934
Observation	2119		2119		2120		1824		2120	
Firms	191		191		191		188		191	
Rsq. overall	0.240		0.301		0.695		0.111		0.436	
Ind. fixed effects	Yes		Yes		Yes		Yes		Yes	
Year fixed effects	Yes		Yes		Yes		Yes		Yes	
Country fixed effects	Yes		Yes		Yes		Yes		Yes	

Panel C (Governance – SHAREHOLDERRIGHT)

Dependent Variable →	DIV/SALES		DIV/SALES		Ln (1+DIV)		DIV/EBIT		DIV/TOTALASSETS	
Independent Variables ↓	Model 1		Model 2		Model 3		Model 4		Model 5	
	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val
REVENUE_NEW	0.184	0.012	0.162	0.015	-0.369	0.042	0.121	0.065	0.147	0.081
SHAREHOLDERRIGHT	0.089	0.003	0.084	0.008	0.045	0.576	0.744	0.322	0.039	0.006
REVENUE_NEW * SHAREHOLDERRIGHT	-0.177	0.000	-0.106	0.005	-0.292	0.017	-0.095	0.087	-0.110	0.000
FOREIGN			0.159	0.039	0.857	0.000	-0.776	0.365	0.089	0.006
INSTITUTIONAL			0.111	0.228	0.771	0.000	1.142	0.300	0.121	0.000
CLOSE			0.077	0.435	-0.569	0.004	-0.131	0.241	0.002	0.995
CASH			0.434	0.028	0.409	0.090	0.169	0.192	0.122	0.006
LEVERAGE			-0.379	0.018	-2.081	0.000	-0.738	0.000	-0.172	0.013
RETE			0.023	0.238	0.179	0.005	0.013	0.394	0.021	0.125
EARNINGS			0.999	0.002	4.218	0.000	-0.251	0.449	1.238	0.000
ABNORMALEARNING			0.005	0.071	0.003	0.000	0.002	0.078	0.003	0.000
SALES/EMPLOYEES			0.009	0.045	0.043	0.041	0.017	0.047	0.062	0.016
ASSETGROWTH			-0.216	0.032	-0.092	0.060	-0.093	0.025	-0.069	0.013
SALESGROWTH			0.309	0.302	0.221	0.167	-0.086	0.038	0.062	0.241
Ln (TOTALASSETS)			-0.048	0.035	0.691	0.000	0.025	0.458	-0.030	0.003
INCOMERISK			-0.383	0.255	-0.554	0.748	0.799	0.611	0.671	0.025
CATERING			0.071	0.005	0.016	0.821	-0.022	0.494	0.031	0.019
GDPGROWTH			-0.111	0.846	2.658	0.070	-0.899	0.110	0.585	0.112
YEAR			0.005	0.033	0.019	0.018	0.007	0.023	0.001	0.064
Constant	-0.070	0.674	-0.124	0.518	-4.016	0.000	-3.130	0.329	-0.052	0.585
Observation	2119		2119		2120		1824		2120	
Firms	191		191		191		188		191	
Rsq. overall	0.125		0.204		0.656		0.103		0.397	
Ind. fixed effects	Yes		Yes		Yes		Yes		Yes	
Year fixed effects	Yes		Yes		Yes		Yes		Yes	
Country fixed effects	No		No		No		No		No	

Table 7: Relation between state ownership and dividends of privatized firms in light of political orientation and national deficit

This Table reports results for panel regression models for 191 privatized firms during 1990 through 2013. The models in this Table empirically test the predictions of our *income* hypothesis. In Panel A, we report the results for the political orientation in a country (LEFTWING), in Panel B, we report the results for the national deficit in a country (NATIONALDEFICIT) and in Panel C we report the results for the joint effect of the political orientation and the national deficit in a country (LEFTWING * NATIONALDEFICIT). Across the three panels, DIV/SALES is the dependent variable in Models 1 and 2. In Models 3, 4, and 5, we re-test Model 2 using Ln (1+DIV), DIV/EBIT, and DIV/TOTALASSETS as the dependent variables, respectively. To reduce the endogeneity problem the independent variables, except for the time invariant dummies (COMMONLAW, SHAREHOLDERRIGHT, FOREIGN, and INSTITUTIONAL) and YEAR, are lagged by one year. We control for the firm-level industry fixed effects, year fixed effects, and country fixed effects across all the models. Values under Coeff correspond to the regression coefficients and P-Val corresponds to the level of significance of the Z-value calculated using robust standard errors at the firm-level. Please refer to Appendix A for detailed definitions of all variables.

Panel A (Political Orientation - LEFTWING)

Dependent Variable →	DIV/SALES		DIV/SALES		Ln (1+DIV)		DIV/EBIT		DIV/TOTALASSETS	
Independent Variables ↓	Model 1		Model 2		Model 3		Model 4		Model 5	
	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val
REVENUE_NEW	0.128	0.020	0.136	0.010	0.785	0.000	0.109	0.058	0.106	0.002
LEFTWING	-0.066	0.116	-0.072	0.089	-0.095	0.495	-0.015	0.632	-0.005	0.794
REVENUE_NEW * LEFTWING	0.050	0.436	0.026	0.666	0.153	0.446	-0.040	0.430	-0.032	0.406
FOREIGN			0.147	0.043	0.864	0.000	-1.769	0.323	0.085	0.017
INSTITUTIONAL			0.062	0.462	0.612	0.000	1.381	0.297	0.084	0.002
CLOSE			0.061	0.539	0.436	0.035	-0.132	0.245	0.010	0.795
CASH			0.453	0.019	0.385	0.122	0.170	0.190	0.183	0.004
LEVERAGE			-0.439	0.007	-2.298	0.000	-0.774	0.000	-0.201	0.008
RETE			0.023	0.228	0.180	0.005	0.015	0.374	0.020	0.143
EARNINGS			1.028	0.001	4.299	0.000	-0.278	0.403	1.248	0.000
ABNORMALEARNING			0.001	0.092	0.003	0.000	0.002	0.079	0.002	0.000
SALES/EMPLOYEES			0.012	0.037	0.044	0.038	0.015	0.053	0.060	0.014
ASSETGROWTH			-0.233	0.028	-0.099	0.057	-0.108	0.022	-0.074	0.010
SALESGROWTH			-0.309	0.060	0.199	0.221	0.101	0.326	-0.062	0.047
Ln (TOTALASSETS)			-0.027	0.214	0.700	0.000	0.039	0.347	-0.023	0.025
INCOMERISK			-0.104	0.744	0.019	0.991	0.836	0.595	0.788	0.011
CATERING			0.054	0.042	-0.021	0.768	-0.029	0.412	0.022	0.119
GDPGROWTH			-0.252	0.692	3.114	0.053	-0.916	0.109	0.827	0.073
YEAR			0.004	0.036	0.025	0.007	0.006	0.357	0.002	0.051
Constant	0.145	0.444	-0.013	0.959	-3.850	0.000	0.367	0.673	-0.033	0.780
Observation	2119		2119		2120		1824		2120	
Firms	191		191		191		188		191	
Rsq. Overall	0.220		0.287		0.691		0.111		0.429	

Ind. fixed effects	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes

Panel B (National Deficit - NATIONALDEFICIT)

Dependent Variable →	DIV/SALES		DIV/SALES		Ln (1+DIV)		DIV/EBIT		DIV/TOTALASSETS	
Independent Variables ↓	Model 1		Model 2		Model 3		Model 4		Model 5	
	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val
REVENUE_NEW	0.205	0.051	0.175	0.092	0.820	0.001	0.181	0.036	0.153	0.015
NATIONALDEFICIT	0.050	0.745	0.174	0.313	0.496	0.315	0.036	0.795	0.027	0.778
REVENUE_NEW * NATIONALDEFICIT	-0.094	0.488	-0.060	0.655	0.477	0.259	0.002	0.983	0.023	0.845
FOREIGN			0.146	0.044	0.876	0.000	-1.776	0.321	0.082	0.023
INSTITUTIONAL			0.066	0.433	0.627	0.000	1.382	0.298	0.084	0.002
CLOSE			0.061	0.547	0.438	0.035	-0.135	0.242	0.008	0.833
CASH			0.455	0.018	0.411	0.094	0.170	0.189	0.185	0.004
LEVERAGE			-0.454	0.004	-2.391	0.000	-0.767	0.000	-0.187	0.012
RETE			0.023	0.229	0.180	0.005	0.015	0.361	0.020	0.149
EARNINGS			1.004	0.002	4.261	0.000	-0.268	0.422	1.271	0.000
ABNORMALEARNING			0.002	0.086	0.003	0.000	0.002	0.081	0.002	0.000
SALES/EMPLOYEES			0.011	0.043	0.044	0.036	0.015	0.053	0.061	0.013
ASSETGROWTH			-0.234	0.028	-0.101	0.056	-0.105	0.022	-0.074	0.010
SALESGROWTH			-0.308	0.061	0.207	0.202	0.095	0.351	-0.060	0.050
Ln (TOTALASSETS)			-0.027	0.215	0.691	0.000	0.038	0.343	-0.023	0.022
INCOMERISK			-0.185	0.569	-0.062	0.972	0.776	0.624	0.779	0.012
CATERING			0.057	0.028	-0.018	0.804	-0.028	0.425	0.022	0.112
GDPGROWTH			-0.008	0.990	3.908	0.009	-0.863	0.161	0.871	0.039
YEAR			0.003	0.054	0.020	0.016	0.005	0.375	0.001	0.059
Constant	0.099	0.669	-0.139	0.602	-4.196	0.000	0.347	0.690	-0.050	0.687
Observation	2119		2119		2120		1824		2120	
Firms	191		191		191		188		191	
Rsq. overall	0.222		0.288		0.692		0.109		0.429	
Ind. fixed effects	Yes		Yes		Yes		Yes		Yes	
Year fixed effects	Yes		Yes		Yes		Yes		Yes	
Country fixed effects	Yes		Yes		Yes		Yes		Yes	

Panel C (Political Orientation and National Deficit - LEFTWING * NATIONALDEFICIT)

Dependent Variable →	DIV/SALES		DIV/SALES		Ln (1+DIV)		DIV/EBIT		DIV/TOTALASSETS	
Independent Variables ↓	Model 1		Model 2		Model 3		Model 4		Model 5	
	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val
REVENUE_NEW	0.180	0.014	0.150	0.019	0.311	0.032	0.048	0.058	0.135	0.032
LEFTWING	-0.143	0.039	-0.180	0.021	-0.373	0.028	-0.075	0.098	-0.154	0.021
NATIONALDEFICIT	0.019	0.895	0.135	0.411	0.378	0.496	-0.002	0.987	0.034	0.708
REVENUE_NEW * LEFTWING	0.077	0.681	0.074	0.656	0.314	0.482	0.124	0.382	-0.185	0.160
REVENUE_NEW * NATIONALDEFICIT	-0.081	0.545	-0.036	0.776	0.554	0.281	0.090	0.428	-0.047	0.554
LEFTWING * NATIONALDEFICIT	0.113	0.495	0.152	0.316	0.383	0.305	0.088	0.264	0.000	0.999
REVENUE_NEW * LEFTWING * NATIONALDEFICIT	-0.041	0.850	-0.068	0.722	-0.231	0.664	-0.238	0.206	0.220	0.209
FOREIGN			0.150	0.038	0.877	0.000	-1.768	0.323	0.085	0.016
INSTITUTIONAL			0.063	0.450	0.620	0.000	1.381	0.298	0.086	0.001
CLOSE			0.070	0.486	-0.423	0.036	-0.125	0.277	0.006	0.867
CASH			0.454	0.018	0.409	0.095	0.171	0.189	0.185	0.004
LEVERAGE			-0.457	0.004	-2.390	0.000	-0.779	0.000	-0.198	0.009
RETE			0.023	0.244	0.178	0.005	0.014	0.397	0.020	0.146
EARNINGS			1.025	0.002	4.294	0.000	-0.285	0.391	1.271	0.000
ABNORMALEARNING			0.005	0.097	0.003	0.000	0.002	0.077	0.002	0.007
SALES/EMPLOYEES			0.011	0.044	0.045	0.039	0.016	0.052	0.061	0.013
ASSETGROWTH			-0.236	0.028	-0.106	0.055	-0.109	0.021	-0.075	0.010
SALESGROWTH			-0.313	0.060	-0.210	0.039	-0.106	0.061	-0.059	0.052
Ln (TOTALASSETS)			-0.028	0.191	0.690	0.000	0.038	0.353	-0.023	0.021
INCOMERISK			-0.099	0.772	0.002	0.999	0.834	0.591	0.825	0.011
CATERING			0.051	0.060	-0.029	0.685	-0.030	0.406	0.021	0.134
GDPGROWTH			0.090	0.890	4.130	0.007	-0.867	0.171	0.912	0.035
YEAR			0.003	0.047	0.021	0.015	0.006	0.034	0.001	0.069
Constant	0.155	0.498	-0.070	0.791	-4.043	0.000	0.364	0.675	-0.037	0.778
Observation	2119		2119		2120		1824		2120	
Firms	191		191		191		188		191	
Rsq. overall	0.222		0.288		0.693		0.111		0.431	
Ind. fixed effects	Yes		Yes		Yes		Yes		Yes	
Year fixed effects	Yes		Yes		Yes		Yes		Yes	
Country fixed effects	Yes		Yes		Yes		Yes		Yes	

Table 8: Relation between firm age and dividend taxation and privatized firms' dividends

This Table reports regression models that test whether firm age and dividend taxation are related to privatized firms' dividends. Due to data constraints, the sample of privatized firms here is reduced to 181. In Panel A, we include firm's age, and in Panel B, we include the country-specific annual dividend tax penalty (TAXPENALTY) proposed by Poterba and Summers (1984). We primarily test for these variables by adding them to Model 2 of Tables 6 and 7. Below we report the results for REVENUE_NEW and key governance, political orientation, national deficit variables, interaction and additional control variables. For brevity, we do not report the firm-specific determinants. DIV/SALES is the dependent variable in all models. We control for the firm-level industry fixed effects and year fixed effects across all the models and country fixed effects in Models 2, 4, 5 and 6. Values under Coeff correspond to the regression coefficients and P-Val corresponds to the level of significance of the Z-value calculated using robust standard errors at the firm-level. Please refer to Appendix A for detailed definitions of all variables.

Panel A: Additional Control (AGE)

Dependent Variable →	DIV/SALES		DIV/SALES		DIV/SALES		DIV/SALES		DIV/SALES		DIV/SALES	
Independent Variables ↓	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val
REVENUE_NEW	0.578	0.032	0.194	0.000	0.407	0.006	0.152	0.015	0.252	0.048	0.340	0.019
COMMONLAW	-0.189	0.264										
REVENUE_NEW * COMMONLAW	-0.503	0.066										
RULELAW			0.088	0.470								
REVENUE_NEW * RULELAW			-0.111	0.003								
SHAREHOLDERRIGHT					0.080	0.022						
REVENUE_NEW * SHAREHOLDERRIGHT					-0.184	0.000						
LEFTWING							-0.069	0.100			-0.202	0.089
REVENUE_NEW * LEFTWING							0.023	0.733			0.198	0.240
NATIONALDEFICIT									0.256	0.152	0.074	0.684
REVENUE_NEW * NATIONALDEFICIT									-0.156	0.319	-0.128	0.398
LEFTWING * NATIONALDEFICIT											0.184	0.172
REVENUE_NEW * LEFTWING * NATIONALDEFICIT											-0.073	0.714
Ln (AGE)	-0.111	0.003	-0.092	0.010	0.017	0.642	-0.094	0.009	-0.094	0.009	-0.048	0.182
Constant	0.324	0.272	0.110	0.719	-0.071	0.790	0.107	0.738	-0.073	0.830	0.011	0.974
Firm-Level Controls	Yes		Yes		Yes		Yes		Yes		Yes	
Observation	1948		1948		1948		1948		1948		1948	
Firms	181		181		181		181		181		181	
Rsq. overall	0.224		0.291		0.213		0.277		0.282		0.282	
Ind. fixed effects	Yes		Yes		Yes		Yes		Yes		Yes	
Year fixed effects	Yes		Yes		Yes		Yes		Yes		Yes	
Country fixed effects	No		Yes		No		Yes		Yes		Yes	

Panel B: Additional Control (TAXPENALTY)

Dependent Variable →	DIV/SALES		DIV/SALES		DIV/SALES		DIV/SALES		DIV/SALES		DIV/SALES	
Independent Variables ↓	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val
REVENUE_NEW	0.809	0.012	0.306	0.000	0.706	0.000	0.226	0.001	0.416	0.009	0.435	0.021
COMMONLAW	-0.306	0.082										
REVENUE_NEW * COMMONLAW	-0.655	0.043										
RULELAW			0.022	0.829								
REVENUE_NEW * RULELAW			-0.183	0.000								
SHAREHOLDERRIGHT					0.103	0.026						
REVENUE_NEW * SHAREHOLDERRIGHT					-0.381	0.000						
LEFTWING							-0.029	0.451			-0.096	0.441
REVENUE_NEW * LEFTWING							-0.015	0.789			0.171	0.473
NATIONALDEFICIT									0.156	0.525	-0.036	0.829
REVENUE_NEW * NATIONALDEFICIT									-0.270	0.119	-0.288	0.133
LEFTWING * NATIONALDEFICIT											0.091	0.520
REVENUE_NEW * LEFTWING * NATIONALDEFICIT											0.022	0.899
TAXPENALTY	0.078	0.371	0.004	0.968	-0.034	0.646	-0.032	0.724	-0.070	0.470	-0.059	0.521
Constant	0.376	0.126	0.764	0.017	-0.017	0.926	0.781	0.003	0.703	0.002	0.723	0.002
Firm-Level Controls	Yes		Yes		Yes		Yes		Yes		Yes	
Observation	1446		1446		1446		1446		1446		1446	
Firms	116		116		116		116		116		116	
Rsq. Overall	0.225		0.307		0.191		0.260		0.269		0.269	
Ind. fixed effects	Yes		Yes		Yes		Yes		Yes		Yes	
Year fixed effects	Yes		Yes		Yes		Yes		Yes		Yes	
Country fixed effects	No		Yes		No		Yes		Yes		Yes	

Appendix A: Detailed description of variables used in the analysis

This Table presents a description of the firm characteristics and all proxy variables used in the analysis.

Variables	Definition
Panel A: Privatization and payout variables	
PVT	A dummy variable, which indicates whether a company is privatized; PVT=1 if it is privatized firms and zero otherwise. Privatization is defined as a government or government controlled entity which sells shares or assets to a non-government entity (Worldscope). Privatization includes both indirect and direct sales of up to a 100% stake to an identifiable buyer and floatation of stock on a stock exchange.
DIV	The total real (1990 prices) amount of common cash dividend distributed by the firm, in millions of US$. We drop firm-years with a negative dividend payout which is rare, but present in few cases.
Ln (1+DIV)	DIV is as defined above. The natural logarithm of the (1 + DIV) is used as one of the measures of dividends.
DIV/SALES	DIV is as defined above. SALES is the total sales by the firm in the same fiscal year. We drop firm-years with zero or negative sales. The effective dependent variable is the ratio of the dividends divided by the sales.
DIV/EBIT	DIV is as defined above. EBIT is the earnings before interest and taxes by the firm in the same fiscal year. We drop firm-years with zero or negative EBIT. The effective dependent variable is the ratio of the dividends divided by the earnings before interest and taxes.
DIV/TOTALASSETS	DIV is as defined above. Exact definition for TOTALASSETS is provided in Panel B below. We drop firm-years with zero or (in very rare case) negative total assets. The effective dependent variable is the ratio of the dividends divided by the total assets. Since the lower bound of all the dividend ratios is zero, we winsorize these variables at an upper 1% level to account for the outliers.
Panel B: Firm-specific variables	
Size	
TOTALASSETS	TOTALASSETS if the total real (1990 prices) amount of total assets of the firm, in millions of US$. In our regression models, we use Ln(TOTALASSETS), which is natural logarithm of TOTALASSETS.
Profitability	
EARNINGS	The firm earnings before interest and tax (EBIT) as a ratio of total assets.
ABNORMALEARNING	Change in annual net income over two consecutive financial years, as a ratio of year-end market capitalization.
Liquidity	
RETE	The retained earnings as a ratio of the market value of firm equity.
CASH	The sum of cash and short term investments as a ratio of total assets of the firm.
Ownership	
CLOSE	Number of shares held by insiders as a percentage of the total number of outstanding shares. Insiders include officers, directors, or their immediate families, or anyone that holds more than 5% of the shares.
FOREIGN	A dummy variable, which indicates whether the primary investor in a newly privatized firm is a foreign / overseas firm, FOREIGN = 1; otherwise zero.
INSTITUTIONAL	A dummy variable, which indicates whether the primary investor in a newly privatized firm is an institutional investor firm, INSTITUTIONAL = 1; otherwise zero.
TOTALGOVHOLDING	A proportion which indicates the extent of a firm's stock owned by the state year-by-year during the post privatization period. These data are sourced at the KPMG Privatization Barometer. They are available for European privatizations only.

REVENUE_NEW	A dummy variable, which indicates whether the government has a majority holding (>50%) in the firm at the end of each fiscal year, REVENUE_ NEW = 1; otherwise zero.
PARTIAL_PVT	A dummy variable, which indicates whether the government has a holding (>0%) in the firm at the end of the fiscal year, PARTIAL_ PVT = 1; otherwise zero.
Risk	
INCOMERISK	The standard deviation of net income as a fraction of total assets over the most recent three years including the current fiscal year.
Growth	
ASSETGROWTH	The relative change of the total assets in real (1990 prices) millions of US$. $ASSETGROWTH_t = ln(TOTALASSETS_t / TOTALASSETS_{t-1})$, where *ln* is natural logarithm.
SALESGROWTH	The relative change of the total sales in real (1990 prices) millions of US$. $SALESGROWTH_t = ln(SALES_t / SALES_{t-1})$, where *ln* is natural logarithm.
Leverage	
LEVERAGE	The sum of short-term and long-term debt as a ratio of the total assets of the firm.
Efficiency	
SALES/EMPLOYEES	The total real (1990 prices) sales of the firm in millions of US$ as a fraction of the total number of employees working in a firm.
EMPLOYEES	The total number of both full-time and part-time employees working in a firm. In our regression analysis, we use the natural logarithm of EMPLOYEES.
Age	
AGE	Difference between the year of observation and the year of incorporation of the firm. In our regression analysis, we use the natural logarithm of AGE.
Panel C: Country and year-specific variables	
COMMONLAW	A dummy variable, which indicates whether a company originates from a common law country; COMMONLAW = 1, otherwise zero.
RULELAW	Reflects perceptions of the extent to which agents have confidence in and abide by the rules of the society, and in particular the quality of contract enforcement, property rights, and the courts (LaPorta et al., 1998; Kaufmann et al., 2016).
SHAREHOLDERRIGHT	Country-specific Anti-Director Rights Index based on Djankov et al. (2008) and Spamann (2010).
GDPGROWTH	Country-specific annual GDP per capita growth.
LEFTWING	Country-specific annual dummy variable, which indicates whether the main governing party in the Central Government is left-wing oriented; LEFTWING = 1, otherwise zero.
NATIONALDEFICIT	Country-specific total annual outstanding government debt divided by the GDP.
CATERING	Country-specific annual dividend-catering measure in line with Baker and Wurgler (2004). A country catering dummy variable takes the value of one if the log of the median market-to-book value of a minimum of five payers in each country is larger than the log of the median market-to-book value of a minimum of five nonpayers in the same country, and zero otherwise.
TAXPENALTY	Dividend tax penalty is attributable to Poterba and Summers (1984) and defined as $\delta^{Div.} = \frac{\frac{\tau^{Div.}-\alpha}{1-\alpha}-\tau^{CG}}{1-\tau^{CG}}$, where $\tau^{Div.}$ Is the dividend tax rate, τ^{CG} is the capital gains tax rate and α is the imputation rate (α varies from 0% to 33%). TAXPENALTY is calculated in all countries except Argentina, Brazil, Chile, China, India, Malaysia, Peru, Russia and Turkey due to data availability limitations.
YEAR	Year of observation of the firm-level characteristics in the regression analysis, from 1990 to 2013.

Appendix B: Sample description by country, level of development, industry competitiveness, legal system, type of privatization, and industry sector

This Table presents a description of the sample of privatized firms, their average cash dividend payments (in millions of 1990 real US$) and dividend scaled by sales, from 1990 to 2013. The column Firms refers to the number of privatized firms. Dividend refers to the average value of DIV. All the DIV observations have been converted from local currency to US$ by using the year-end conversion rate. DIV/SALES refers to average value of annual common cash dividend scaled by the year-end sales. Panel 1 reports the number of firms and dividends by country. Panel 2 divides the sample by legal system: common versus civil law countries. Panel 3 reports dividends based on control style versus revenue style privatizations. Panel 4 reports the number of firms and dividends by industry sector.

Countries	Firms	Dividend	DIV/SALES
Panel 1: Observations by country			
Argentina	5	217.79	0.2855
Australia	4	659.99	0.3055
Austria	6	128.29	0.2555
Brazil	23	304.62	0.3713
Canada	5	103.71	0.2541
Chile	2	112.74	0.5100
China	9	993.27	0.2373
Finland	5	66.05	0.2408
France	16	403.91	0.2639
Germany	13	375.36	0.2344
Greece	6	134.31	0.3259
India	2	85.14	0.1521
Italy	12	712.16	0.2279
Malaysia	3	109.56	0.3608
Mexico	1	596.92	0.4244
Netherlands	2	218.68	0.1531
New Zealand	3	40.85	0.3537
Norway	2	242.90	0.3600
Peru	6	77.21	0.4276
Poland	15	67.81	0.1836
Portugal	4	381.72	0.3970
Russia	17	242.10	0.1578
Spain	6	766.80	0.3238
Sweden	7	35.14	0.2815
Turkey	8	60.80	0.1875
UK	9	113.12	0.2897
Total	191	306.83	0.2763

Categories	Firms	Dividend	DIV/SALES
Panel 2: By legal system			
Common law	26	198.85	0.1433
Civil law	165	324.49	0.3037
Panel 3: By type of privatization			
Control	59	88.48	0.1727
Revenue	132	396.06	0.3278
Panel 4: By industry sector			
Agri. + Mine + Const.	18	584.48	0.2732
Manufacturing	65	307.86	0.2281
Transportation	21	94.06	0.2200
Telecommunication	21	639.77	0.3366
Utilities	43	236.73	0.3725
Wholesale / Retail	6	108.07	0.1684
Financials	3	14.03	0.3100
Others	14	70.02	0.2577

Appendix C: Change in firm characteristics around privatization: Univariate analysis

This Table reports univariate analysis for various firm characteristics 3 years before and 3 years after privatization. N refers to the number of firms observed for the specific variable. We require firms to have at least 2 years of data both before and after privatization. Consequently, the firms included for this analysis are privatized between 1992 and 2011. Expected Change refers to the anticipated change in the firm-level financial and accounting parameters after privatization. Sign refers to the expected sign of the difference in mean and median proxy variable values from before to after privatization. Proportion refers to the percentage of firms whose proxy values change as expected, as well as a test of significance of this change (Z-statistics). Before and After refer to the mean and median values of the proxy variables for the 3-year periods before and after privatization. Difference refers to the difference in mean and median values for 3 years after privatization minus mean and median values for 3 years before privatization. We use the two-sample mean-comparison test (T-statistics) and the Wilcoxon signed rank test (Z-statistics) to test the significance of differences in mean and median values, respectively. We use the country-specific consumer price index to deflate the nominal firm specific accounting and financial data into real 1990 prices. The proxy variables have been converted from local currencies to US$ by using the year-end conversion rates. Please refer to Appendix A for detailed definitions of all variables.

		Expected Change		Mean			Median		
	N	Sign	Proportion	Before	After	Difference	Before	After	Difference
Ownership									
CLOSE	119	(-)	1.000 [a]	1.000	0.542	-0.458 [a]	1.000	0.574	-0.426 [a]
Liquidity									
CASH	120	(+)	0.483	0.272	0.277	0.005	0.244	0.329	0.085
RETE	113	(+)	0.664 [a]	0.183	0.111	-0.073 [c]	0.135	0.185	0.050 [a]
Leverage									
LEVERAGE	120	(-)	0.648 [c]	0.260	0.224	-0.036 [c]	0.220	0.160	-0.060 [c]
Profitability									
EARNINGS	119	(+)	0.588 [c]	0.087	0.098	0.011 [b]	0.074	0.081	0.007 [c]
ABNORMALEARNING	95	(+)	0.654 [a]	-0.456	0.434	0.890 [c]	0.385	0.428	0.043 [c]
Efficiency									
SALES/EMPLOYEES	113	(+)	0.796 [a]	0.364	0.520	0.156 [a]	0.170	0.202	0.032 [a]
Growth									
ASSETGROWTH	103	(+)	0.660 [b]	0.065	0.086	0.021 [b]	0.063	0.073	0.010 [c]
SALESGROWTH	102	(+)	0.706 [b]	0.086	0.118	0.032 [b]	0.064	0.075	0.012 [b]
Size									
TOTALASSETS	120	(+)	0.717 [a]	9179.95	11286.39	2106.44 [b]	2006.67	2921.57	914.89 [a]
Risk									
INCOMERISK	102	(-)	0.647 [a]	0.406	0.328	-0.077 [a]	0.263	0.204	-0.059 [a]

a, b, and c represent significance at the 1%, 5% and 10% levels, respectively.

Appendix D: Firm characteristics for privatized *vs.* non-privatized firms: Univariate analysis

This Table reports summary statistics for firm characteristics of privatized and non-privatized firms in our sample from 1990 through 2013. N refers to the number of firm-year observations available for the respective variable in each category. Mean and Median are the arithmetic average and median value for each proxy variable. We use the country-specific consumer price indices to deflate the nominal firm specific accounting and financial data into real 1990 prices. All the proxy variables have been converted from local currencies to US$ by using the year-end conversion rates. We use the two-sample mean-comparison test (T-statistics) and the Wilcoxon signed rank test (Z-statistics) to test the significance of differences in mean and median values, respectively. Please refer to Appendix A for detailed definitions of all variables.

	Privatized Firms			Non-Privatized Firms			Difference	
	N	Mean	Median	N	Mean	Median	Mean	Median
Ownership								
CLOSE	2784	0.533	0.548	66586	0.453	0.473	0.080 [a]	0.075 [a]
Liquidity								
CASH	3339	0.286	0.238	78411	0.286	0.207	0.001	0.031 [a]
RETE	3162	0.231	0.228	76028	-0.034	0.209	0.265 [a]	0.018 [a]
Leverage								
LEVERAGE	3359	0.241	0.229	79397	0.215	0.190	0.026 [a]	0.039 [a]
Profitability								
EARNINGS	3314	0.092	0.082	78420	0.043	0.067	0.049 [c]	0.015 [a]
ABNORMALEARNING	3057	-0.240	0.570	73622	1.640	0.520	-1.879	0.050 [a]
Efficiency								
SALES/EMPLOYEES	3028	0.497	0.230	70794	0.417	0.170	0.080 [a]	0.060 [a]
Growth								
ASSETGROWTH	3228	0.072	0.060	75836	0.101	0.066	-0.029 [a]	-0.006 [a]
SALESGROWTH	3226	0.081	0.078	74166	0.094	0.080	-0.013 [b]	-0.002
Size								
TOTALASSETS	3359	14538.13	2940.40	79431	2160.84	189.71	12377.29 [a]	2750.69 [a]
Risk								
INCOMERISK	3345	0.039	0.024	79804	0.304	0.034	-0.266 [a]	-0.010 [a]

a, b, and c represent significance at the 1%, 5% and 10% levels, respectively.

Appendix E Privatization on dividends: Multivariate analysis with propensity score matched sample

This Table reports results for panel regressions for 191 privatized and matching non-privatized firms during 1990 to 2013. Each privatized firms is matched with a non-privatized firm using the propensity score matching (PSM) technique. The matching is performed using the same year of listing, country of origin, firm's total assets, cash holdings, and growth in total assets. In Models 1 and 2, the dependent variable is DIV/SALES. We test the robustness of the findings, in Models 3-5, using different dependent variables to capture dividends. To reduce the endogeneity problem the independent variables, except PVT and YEAR, are lagged by one year. We control for the firm-level industry fixed effects, year fixed effects, and country fixed effects. Values under Coeff correspond to the regression coefficients and P-Val corresponds to the level of significance of the Z-value calculated using robust standard errors at the firm-level. Please refer to Appendix A for detailed definitions of all variables.

Dependent Variable →	DIV/SALES		DIV/SALES		Ln (1+DIV)		DIV/EBIT		DIV/TOTALASSETS	
Independent Variables ↓	Model 1		Model 2		Model 3		Model 4		Model 5	
	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val
PVT	0.178	0.000	0.153	0.000	0.603	0.000	0.198	0.000	0.139	0.000
CLOSE			0.024	0.080	0.567	0.001	0.054	0.008	0.027	0.020
CASH			0.019	0.253	0.041	0.841	-0.016	0.522	-0.003	0.842
LEVERAGE			-0.113	0.000	-1.601	0.000	-0.181	0.000	-0.117	0.000
RETE			0.010	0.000	0.100	0.000	0.021	0.000	0.010	0.000
EARNINGS			0.035	0.045	0.405	0.066	-0.043	0.538	0.056	0.011
ABNORMALEARNING			0.004	0.000	0.001	0.000	0.008	0.001	0.003	0.000
SALES/EMPLOYEES			0.015	0.071	0.053	0.653	0.020	0.158	0.007	0.040
ASSETGROWTH			-0.010	0.090	-0.389	0.000	-0.023	0.081	-0.027	0.000
SALESGROWTH			-0.013	0.024	-0.061	0.228	-0.008	0.630	-0.002	0.512
Ln (TOTALASSETS)			0.011	0.000	0.865	0.000	0.019	0.000	0.005	0.047
INCOMERISK			-0.002	0.894	0.478	0.027	-0.108	0.184	0.002	0.865
CATERING			0.002	0.729	-0.021	0.739	-0.003	0.707	-0.002	0.681
GDPGROWTH			0.181	0.099	3.462	0.011	0.027	0.881	0.264	0.009
YEAR			0.020	0.073	0.007	0.033	0.002	0.006	0.001	0.080
Constant	0.061	0.270	0.041	0.437	-3.280	0.000	0.135	0.026	0.055	0.220
Observation	4125		4125		4132		3555		4132	
Firms	382		382		382		376		382	
Rsq. overall	0.502		0.543		0.718		0.444		0.503	
Ind. fixed effects	Yes		Yes		Yes		Yes		Yes	
Year fixed effects	Yes		Yes		Yes		Yes		Yes	
Country fixed effects	Yes		Yes		Yes		Yes		Yes	

Appendix F: Dividends for partially versus fully privatized firms

This Table reports results for panel regressions for 191 privatized firms in our sample during 1990 to 2013. Key variable of interest is PARTIAL_PVT, which is a dummy variable equal to 1 if the State has holding in the privatized firm, and 0 if the State has sold 100% holding in the firm. For each sample firm, we searched news articles etc. to determine if and when the state fully privatized the firm. The dependent variable in Model 1 through Model 4 is DIV/SALES. In Models 5, 6, and 7, we re-test impact of determinants included in Model 4 by using Ln (1+DIV), DIV/EBIT, and DIV/TOTALASSETS as the dependent variables, respectively. To reduce the endogeneity problem the independent variables, except for the time invariant dummies (FOREIGN and INSTITUTIONAL) and YEAR, are lagged by one year. We control for the firm-level industry fixed effects, year fixed effects, and country fixed effects. Values under Coeff correspond to the regression coefficients and P-Val corresponds to the level of significance of the Z-value calculated using robust standard errors at the firm-level. Please refer to Appendix A for detailed definitions of all variables.

Dependent Variable →	DIV/SALES		DIV/SALES		DIV/SALES		DIV/SALES		Ln (1+DIV)		DIV/EBIT		DIV/TOTALASSETS	
Independent Variables ↓	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6		Model 7	
	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val
PARTIAL_PVT	0.139	0.009	0.129	0.017	0.126	0.020	0.146	0.005	0.218	0.088	0.140	0.079	0.076	0.071
FOREIGN			0.134	0.067	0.132	0.071	0.156	0.035	0.870	0.000	-1.769	0.323	0.092	0.011
INSTITUTIONAL			0.030	0.684	0.035	0.635	0.064	0.434	0.610	0.000	1.379	0.300	0.086	0.001
CLOSE					0.074	0.488	0.064	0.518	0.438	0.039	-0.125	0.263	0.014	0.697
CASH							0.455	0.019	0.388	0.116	0.170	0.186	0.183	0.004
LEVERAGE							-0.433	0.007	-2.317	0.000	-0.750	0.000	-0.190	0.010
RETE							0.023	0.056	0.180	0.003	0.015	0.184	0.020	0.067
EARNINGS							1.032	0.002	4.305	0.000	-0.244	0.470	1.256	0.000
ABNORMALEARNING							0.001	0.935	0.003	0.000	0.002	0.815	0.002	0.006
SALES/EMPLOYEES							0.009	0.046	0.037	0.044	0.014	0.057	0.060	0.014
ASSETGROWTH							-0.232	0.073	-0.095	0.073	-0.108	0.107	-0.073	0.027
SALESGROWTH							-0.303	0.078	-0.197	0.056	-0.094	0.089	-0.059	0.066
Ln (TOTALASSETS)							0.026	0.253	0.700	0.000	0.044	0.269	0.022	0.031
INCOMERISK							-0.072	0.818	0.100	0.953	0.832	0.597	0.810	0.011
CATERING							0.057	0.028	-0.015	0.837	-0.028	0.413	0.021	0.125
GDPGROWTH							-0.263	0.678	3.067	0.058	-0.889	0.123	0.823	0.069
YEAR							0.003	0.048	0.025	0.007	0.004	0.049	0.001	0.074
Constant	0.183	0.363	0.143	0.430	0.088	0.667	-0.069	0.780	-3.957	0.000	0.339	0.699	-0.038	0.734
Observation	2119		2119		2119		2119		2120		1824		2120	
Firms	191		191		191		191		191		188		191	
Rsq. Overall	0.216		0.219		0.219		0.284		0.691		0.111		0.423	
Ind. fixed effects	Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Year fixed effects	Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Country fixed effects	Yes		Yes		Yes		Yes		Yes		Yes		Yes	

Appendix G: Likelihood of dividends by privatized firms

This Table reports results for Probit regressions for the 191 privatized firms in our sample during 1990 to 2013. The dependent variable is a dummy variable equal to 1 if the firm paid dividends, and 0 otherwise. To reduce the endogeneity problem the independent variables, except for the time invariant dummies (FOREIGN and INSTITUTIONAL) and YEAR, are lagged by one year. We control for the firm-level industry fixed effects, year fixed effects, and country fixed effects. Values under Coeff correspond to the regression coefficients and P-Val corresponds to the level of significance of the Z-value calculated using robust standard errors at the firm-level. Please refer to Appendix A for detailed definitions of all variables.

Independent Variables ↓	Model 1		Model 2		Model 3		Model 4	
	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val	Coeff	P-Val
REVENUE_NEW	0.196	0.035	0.246	0.021	0.170	0.036	0.186	0.039
FOREIGN			0.950	0.000	0.929	0.000	0.526	0.062
INSTITUTIONAL			1.287	0.000	1.221	0.000	0.835	0.001
CLOSE					0.766	0.012	0.624	0.040
CASH							0.995	0.014
LEVERAGE							-2.350	0.002
RETE							0.209	0.055
EARNINGS							4.684	0.000
ABNORMALEARNING							0.001	0.000
SALES/EMPLOYEES							0.009	0.094
ASSETGROWTH							-0.003	0.099
SALESGROWTH							-0.289	0.081
Ln (TOTALASSETS)							0.325	0.001
INCOMERISK							-3.760	0.219
CATERING							-0.015	0.903
GDPGROWTH							1.233	0.413
YEAR							0.024	0.096
Constant	1.598	0.000	0.516	0.004	0.945	0.000	-0.824	0.253
Observation	2119		2119		2119		2119	
Firms	191		191		191		191	
Wald Chi Sq	8.60		53.94		65.71		136.49	
Prob.	0.000		0.000		0.000		0.000	
Ind. fixed effects	Yes		Yes		Yes		Yes	
Year fixed effects	Yes		Yes		Yes		Yes	
Country fixed effects	Yes		Yes		Yes		Yes	